



Bahria University
Discovering Knowledge
An Initiative of Pakistan Navy



PROSPECTUS

2026

BAHRIA UNIVERSITY



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ASIF ALI ZARDARI
CHANCELLOR BAHRIA UNIVERISTY







MESSAGE OF PRO CHANCELLOR

Bahria University is a flagship project of Pakistan Navy envisioned to promote the indispensable cause of quality and multidisciplinary Higher Education in country. The University has embarked on a remarkable journey from its inception. Just over the span of two decades, it stands among the reputable universities of Pakistan. It is heartening to note that the university has become a center of excellence for knowledge and research in multiple academic disciplines. The University has kept its custom of taking lead in adoption of modern teaching pedagogies and investing in facilities featuring dedicated modern infrastructure, equipped with cutting edge technologies to ensure conducive environment with the aim to become the benchmark of academic excellence. Pakistan Navy acknowledges the support of all stakeholders and I am delighted to share that Pakistan Navy is focused on building the future of motherland and will continue with high spirits.

The founding father of Pakistan – Muhammad Ali Jinnah (RA) considered youth as the greatest asset of nation and relentlessly emphasized on the education and development of youth for a promising future. To achieve Quaid's objective, Bahria University must focus on wholesome grooming of its students through personal and professional development along with delivery of quality education. The University Alumni's are distinguished with characteristics of Competency, Ethics, Morality and Subject Knowledge.

I would encourage the Youth of Pakistan to enroll for Higher Education to be a complete person, a responsible citizen and a valuable asset for the country.

Admiral Naveed Ashraf NI (M), Tbt

Pro - Chancellor Bahria University
Chief of the Naval Staff



RECTOR'S MESSAGE

At Bahria University, our motto is “Discovering Knowledge.” We are committed to providing an education that empowers students to excel academically, grow professionally, and thrive in a rapidly evolving world. With seven campuses across Islamabad, Lahore, and Karachi and over 130-degree programs across diverse disciplines, our university offers a vibrant environment where students can explore their passion, develop essential skills, and prepare for meaningful careers.

Our diverse student community, representing over 25 nationalities, enjoys a globally connected academic experience supported by more than 80 international partnerships and a strong alumni network of over 55,000 graduates. From pioneering initiatives like the Pakistan Maritime Science and Technology Park and the BU Hashoo School of Hospitality Management to the Health Sciences Campuses, Business Incubation Center and the Center of Excellence in Artificial Intelligence, Bahria University blends tradition with innovation to ensure students gain both deep knowledge and hands-on exposure in emerging and established disciplines.

Our faculty and management form the backbone of Bahria University’s excellence. Highly qualified educators and experienced industry professionals bring academic rigor, practical expertise, and personalized mentorship, guiding students to develop strong disciplinary foundations, critical thinking abilities, creativity, and ethical values.

To further expand access to quality higher education, Bahria University has recently launched its Open Distance Learning (ODL) Programme, offering flexible online degree options for students in remote areas of Pakistan as well as international learners. This initiative is a step to ensure quality education, modern curriculum, and expert faculty are accessible to all, regardless of geographical constraints. We are also equipping our faculty to enhance the learning experience of students through Artificial Intelligence. We are also adapting to the new generation’s attributes to providing a conducive environment.

We prioritize not just learning, but the holistic development of every student. Over the past 25 years, BU has invested more than considerably in scholarships. Our modern campuses, counseling services, and comprehensive student support programs nurture confidence, ethics, leadership, and resilience, helping students evolve into well-rounded, socially responsible individuals.

Beyond academics, we encourage students to explore their creativity, leadership, and civic responsibility. Our dynamic entrepreneurship ecosystem, active student societies, and strong culture of community service offer countless opportunities to innovate, volunteer, and collaborate. At Bahria University, we emphasize ethics, integrity, and character building, ensuring that our graduates are not only career-ready but also compassionate citizens capable of contributing meaningfully to society.

Choosing Bahria University means joining a community that values excellence, innovation, and inclusivity. We warmly welcome students and parents to explore the opportunities, support systems, and growth pathways available here, and to become part of our mission to prepare capable, confident, and future-ready graduates who will make a positive impact in Pakistan and beyond.

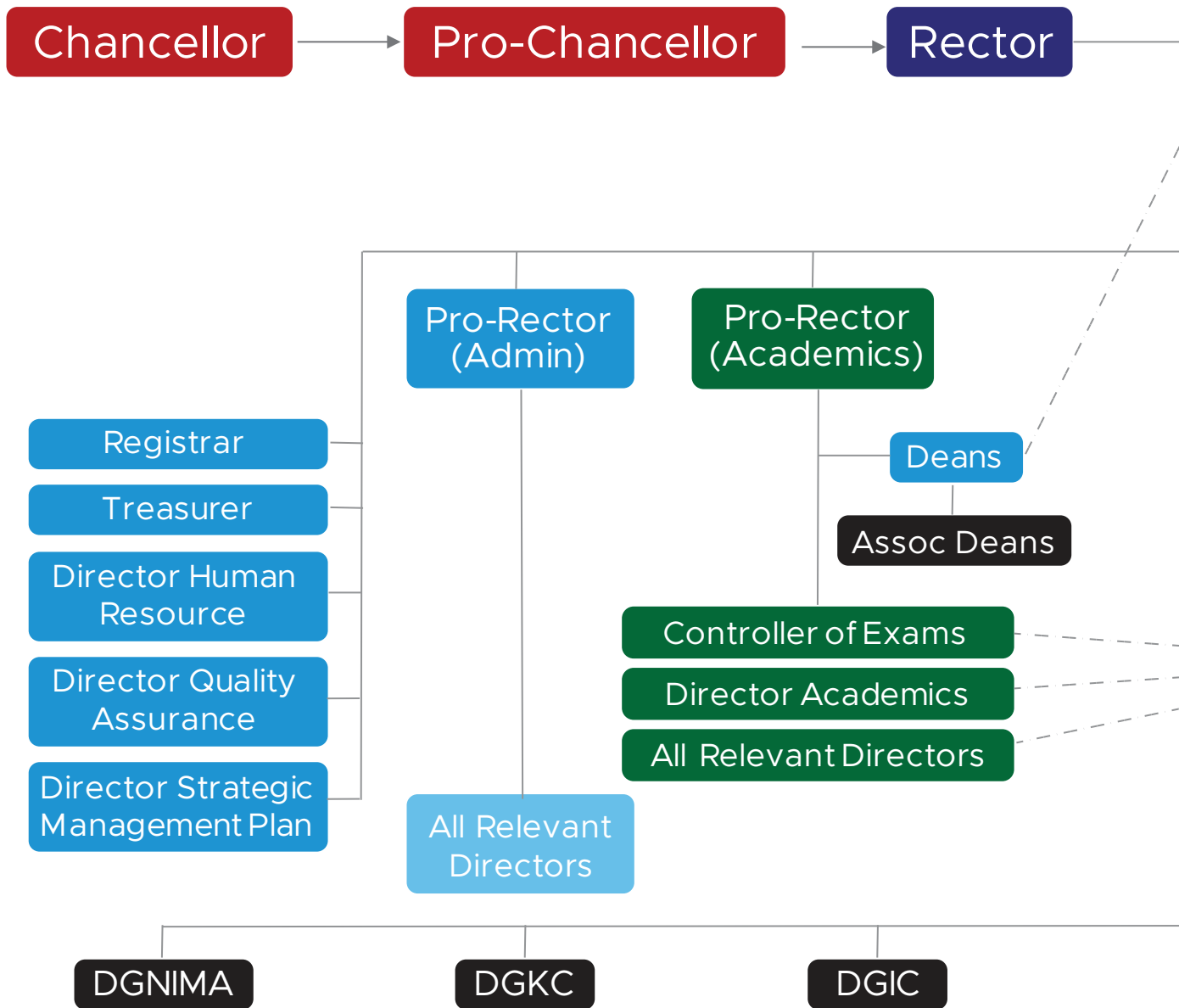
Vice Admiral (R) Asif Khaliq HI (M)

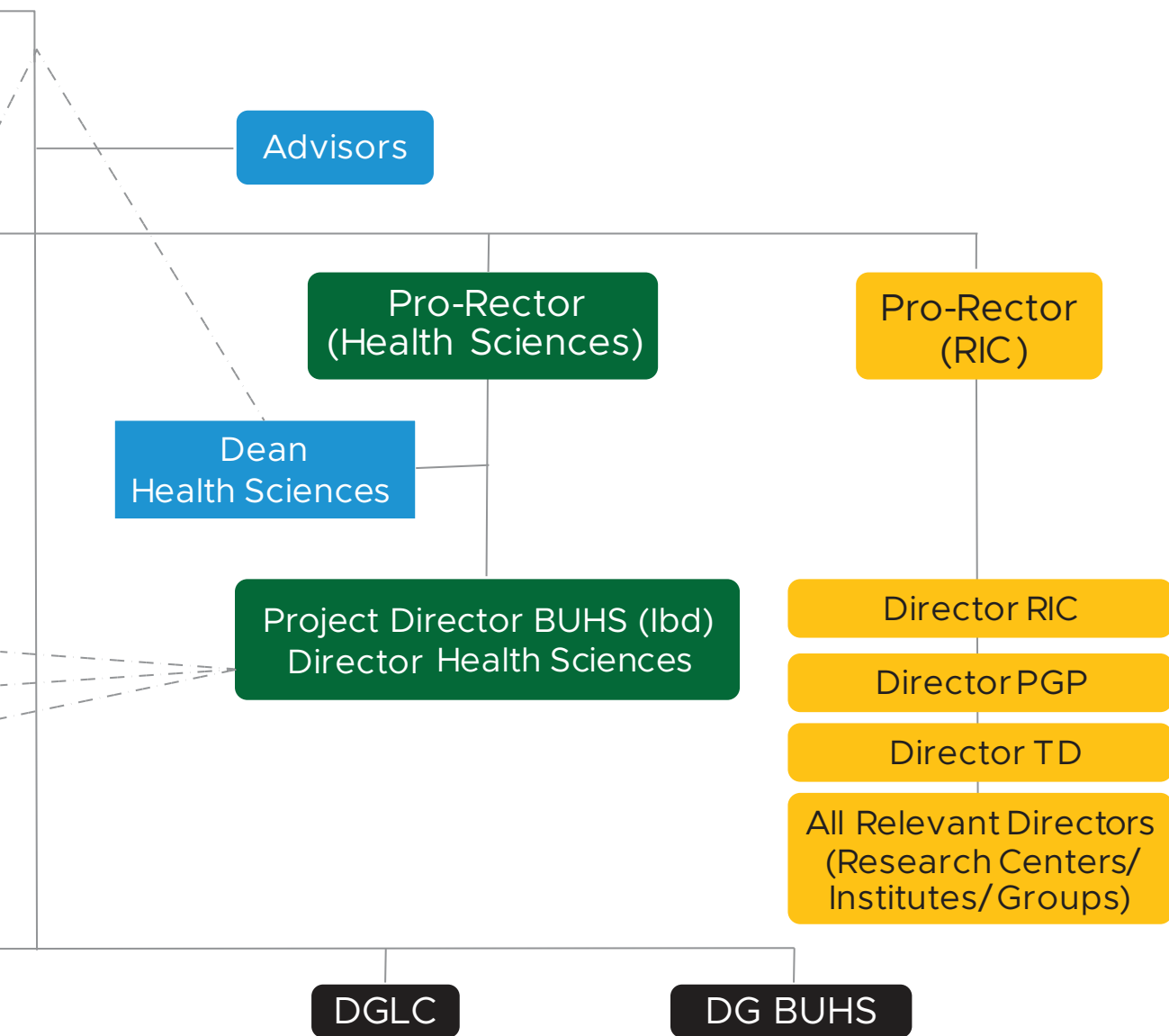
Rector Bahria University

DISCOVERING
KNOWLEDGE



Bahria University Organogram





BAHRIA AT A GLANCE

About US

Bahria University is a Federally Chartered Public-Sector Non-Profitable institution established on 7th February 2000 through a Presidential Ordinance. Being a multi-campus (Isb/Lhr/Khi) institution of higher education, we aim to attain highest standards in teaching, learning and research that fall in accordance with global compatibility.





VISION

To become a knowledge and creativity driven international university that contributes towards development of society.

MISSION

To ensure academic excellence through deliverance of quality education and applied research in a collegiate environment having strong linkages with industry and international community to meet the societal challenges.

CORE VALUES

Integrity
Creativity
Excellence
Positivity
Tolerance
Humility
Self-Discipline

[illegible]



Excellence in Education

The aim is to offer students a transformational educational experience, encompassing both the academic and the co-curricular activities, which provides them with the opportunity to fulfill their potential as successful professionals in life.

Excellence in Research

The aim is to develop and sustain an environment where research is viewed and practiced as a primary function that will subsequently contribute towards the vitalization of teaching, by discovery of new knowledge, and improving people's life in our country and abroad.

Excellence in Global Reach

The aim is to thrive for a global presence by equipping students, staff and faculty with the global knowledge and expertise to become a world renowned university.

Engaging with Business/ Industry

The aim is to maximize the impact of our excellence in education and research by engaging effectively with business/ industry in a way that benefits staff, students, faculty and alumni to provide sustainable growth in our income from government and non-government sources

Improving & Ensuring the University's Financial Security

The aim is to enhance existing income streams and develop diversified means of income generation for the financial sustainability of the university.

Excellence in Social Integration

The aim is to commit our self towards development of our local communities, and foster an environment where the staff, students and faculty see themselves as part of the larger, global community.

Why BU

Highly Qualified &
Experienced Faculty

Strong Industrial &
International Academia
Linkages

45
International
Linkages

Research
Funding Over
PKR 240
Million



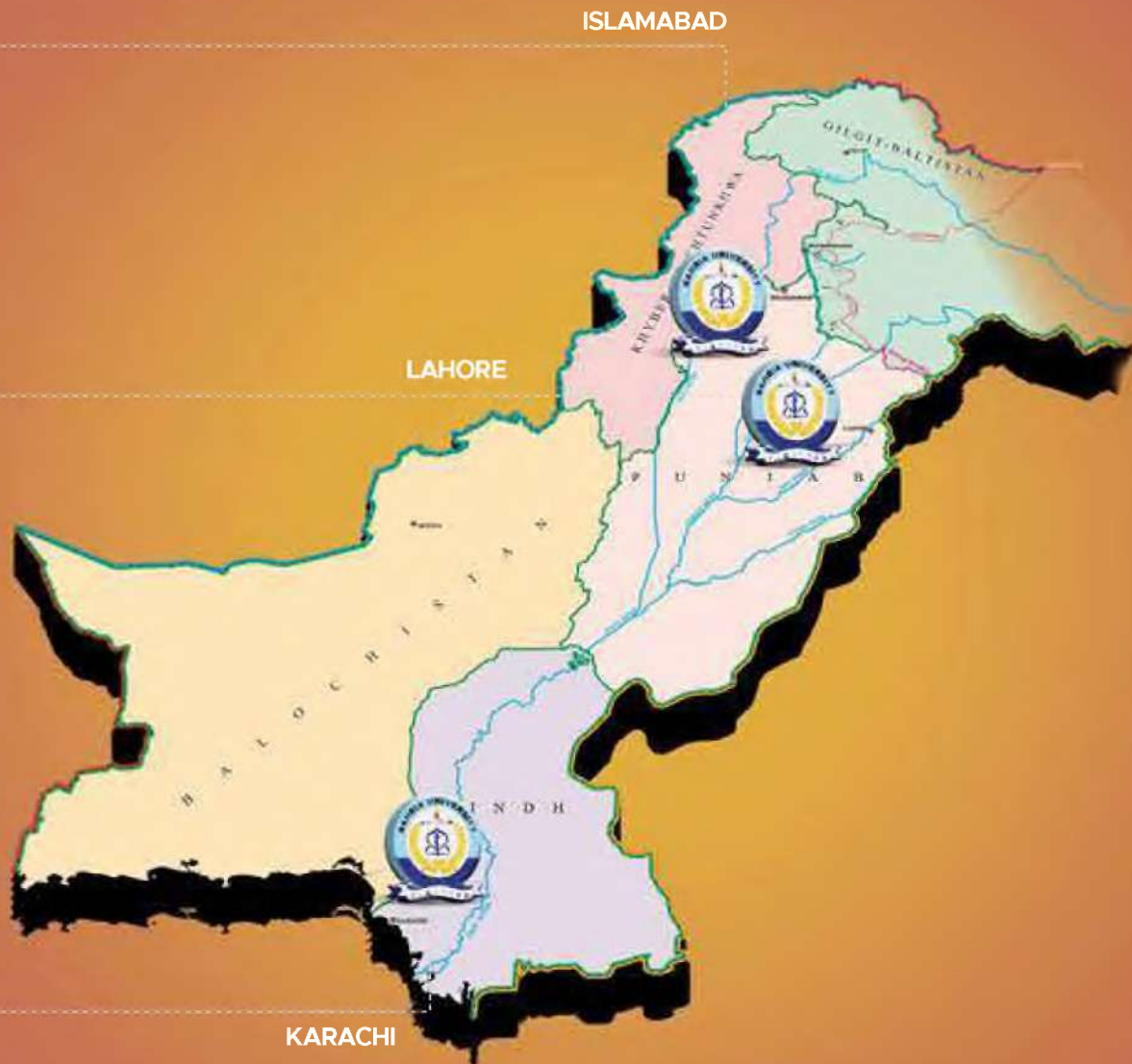
19000+
Students

Scholarship
Grants worth
PKR 164+
Million

BAHRIA UNIVERSITY

Bahria University is a Federally Chartered Public Sector University which was established on 7th February 2000 through a Presidential Ordinance. It is a multi-campus institution of higher education, which is committed to attain the highest standards in teaching, learning and research, compatible with global requirements of practicing different professions. The University is widely recognized for preparing professionals, to assume roles as future leaders and to become good executives/ managers through development of their physical, mental, moral and professional competence. The enrollment of students has crossed 19,000+ in the campuses located in Islamabad, Karachi and Lahore.









ISLAMABAD CAMPUS

Bahria University Islamabad Campus (BUIC) is one of the most renowned institutions of higher education in Islamabad. Hosting over 7,000 students, BUIC provides access to higher education for promising students. There are two campuses at Islamabad. The old campus is situated at Sector E-8 Islamabad, whereas, the new campus has recently been built and commissioned at Sector H-11/4 (behind HQ NESCOM) imparting education & training to over 1600 students from Fall 2021 semester. The old Islamabad campus houses three schools; Bahria Business School (BBS), Bahria Humanities & Social Sciences School (BH3S), Bahria University Law School (BULS) and Department of Professional Psychology. The new campus at H-11 houses Bahria School of Engineering & Applied Sciences (BSEAS). Our vibrant Campuses in the heart of the city serves a rapidly-growing number of rural students from the immediate area and surrounding provinces. The changes taking place at the university continue to capture the imagination of people everywhere, including the international media, and our growing base of international universities. Inspiring excellence. Transforming lives. These objectives are the driving forces at the heart of BUIC. Through our Project, we are a university internationally recognized for human reconciliation and compassion as well as for excellence in academic achievement.

Bahria Univeristy E-8 Campus



Shangrilla Road, Sector E-8 Islamabad



+92-51-111-111-028



info@bahria.edu.pk

Bahria University H-11 Campus



BSEAS, BUIC (H-11) Sector H-11/4, Islamabad

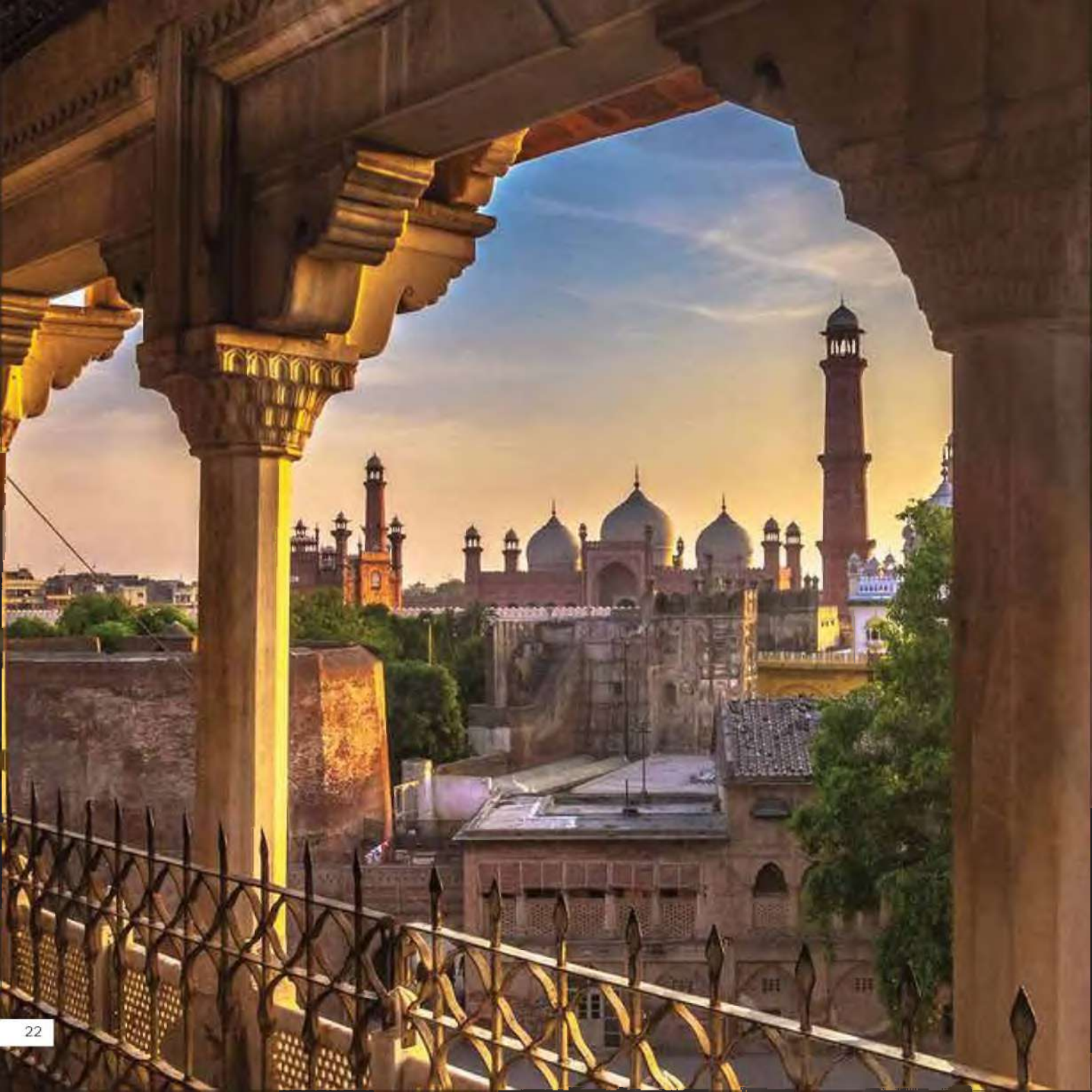


+92-51-9259503



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LAHORE CAMPUS

Bahria University Lahore Campus (BULC) is a student-centered, globally-engaged public university committed to providing highly-valued undergraduate and graduate educational opportunities through superior teaching, research, creative activity and service for the people of Pakistan and the world. BULC is committed to being an outstanding teaching-intensive, research-driven university that emphasizes student engagement, scholarly and creative achievement, civic participation, and global perspectives. The Campus is widely recognized for its high quality of services, activities and programs for students. It has strong partnerships with faculty, student and community groups so that we may serve as primary advocates to meet the needs of our diverse student population. The core values of the institution includes Educational Opportunity, Excellence, Diversity integrity and service.



47 C, Civic Center, Johar Town Lahore

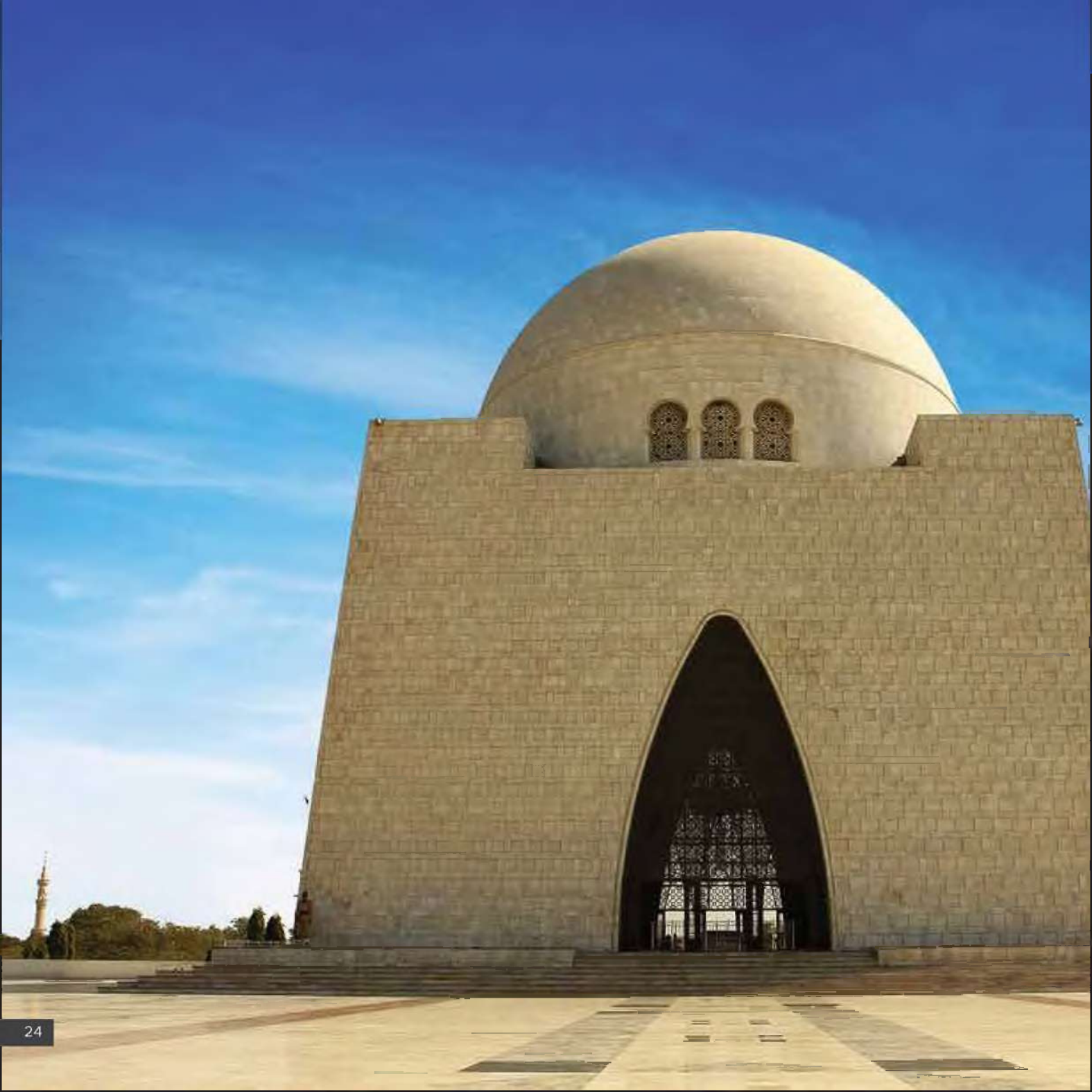


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KARACHI CAMPUS

Bahria University Karachi Campus (BUKC)

Bahria University Karachi Campus (BUKC) was founded with a purpose: to create economic, societal and intellectual prosperity for the people of Karachi and the country. The campus houses three schools; Bahria Business School (BBS), Bahria School of Engineering & Applied Sciences (BSEAS) and, Bahria Humanities & Social Sciences School (BH3S). We began as an institution teaching wide range of subjects including Management Sciences, Computer Sciences, Software Engineering, Computer Engineering, Electrical Engineering and Media Studies. The Karachi campus has students, faculty and staff take problems in hand and work with industry, and government to solve them. Our high-performing students apply what they learn in the real world by conducting research, working in internships and co-ops, and performing acts of world-changing service. That experiential education ensures they leave here ready to lead the workforce, confident in the knowledge that Bahria University consistently rates as one of the best values in higher education.



13 National Stadium Rd, Karachi



+92-21-111-111-028



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Bahria University Health Sciences (BUHS)

Bahria University Health Sciences (BUHS) Campus was established in 2008 with the induction of experienced and highly qualified faculty. The state-of-the-art 7-storey building houses 5 lecture halls each with a capacity of 150 seats and a beautiful auditorium with a seating capacity of 500. There are fully equipped laboratories, museums, dedicated teaching rooms for group teaching and a skills laboratory. BUHS strictly follows the curriculum specified by the Pakistan Medical and Dental Council.



Adjacent to PNS SHIFA, DHA Phase-II, Karachi



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KARACHI CAMPUS

Institute of Professional Psychology

The Institute of Professional Psychology (IPP) at Bahria University functions as an educational establishment focused on the career development of its students. The Institute offers a range of specialized programs ranging from Bachelors till PhD programs. Undergraduate students are given basic and fundamental knowledge related to different aspects of psychology with the aim toward developing their thorough grounding in the field. On the other hand, students at the postgraduate level from MS/MPhil to PhD are provided with the unique opportunity to engage in experiential learning with supervised internships in the field settings along with gaining an enhanced outlook of professional psychology based on their selected specialization. Both students and faculty are also actively engaged in community work, aiming to benefit the community while fulfilling the experiential requirements for various courses. The Psychological Services Centre, Umeed-e-Nau, offers individualized assessments and a range of therapeutic plans tailored to the specific needs of each client. Beyond clinical practice, IPP provides consultancy services in assessment and counseling to various national and multinational organizations.



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ISLAMABAD CAMPUS

National Institute of Maritime Affairs (NIMA)

National Institute of Maritime Affairs (NIMA) had been set up at the Bahria University, Islamabad Campus with a view to encourage research in maritime matters. NIMA has accordingly developed linkages with various international universities and maritime research institutes. It has also hosted a number of international seminars, conferences and workshops, high-lighting various aspects of the maritime domain.



Bahria Univeristy E-8 Campus



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SCHOLARSHIPS/FEE CONCESSIONS/WAIVERS/STUDENT LOANS

Introduction

10.1.1 Bahria University offers various Scholarships for students with an aim to encourage excellence in studies through rewarding high academic achievers through various types of Advance Merit /Merit scholarships and also to support less privileged student(s) to attain their goals/target by offering purely Need Based Scholarships. BU believes that no one should be deprived of getting education merely on the grounds of inability to pay.

Objectives

BU scholarships are offered with an objective to;

- a. Provide financial support to academically talented and less privileged students with an objective to empower them to acquire quality education at Higher Education level.
- b. Elevate the socio-economic status of the students by enabling them to get the modern education and career opportunities for their brighter future.
- c. To improve access to higher education, especially for those belonging from far flung areas of Pakistan

Types of Scholarships Offered and their Eligibility Criteria

The eligibility criteria for different types of scholarships are as under:

1. Advance Merit Scholarships – Types; The University generally award Advanced Merit

Scholarships in the following five categories, in order to encourage and ensure that the most talented students join Bahria University.

- i. Advanced Merit Scholarship for Board Toppers;
- ii. Advanced Merit Scholarship for Top Rankers in University Merit Lists;
- iii. Advanced Merit Scholarship for Outstanding Performers in A-Levels;
- iv. Exemption of admission fee to Bahria university graduates/alumni for MBA/MS/MPhil/PhD program at Bahria university
- v. Incentive to attract High Achieving Candidates into PG Programs.

Advanced Merit Scholarship for Board Toppers (for undergraduate programs)

Bahria University shall offer 100% total fee waiver/concession (including all other charges) for the first semester, to top three toppers of all Boards of Intermediate and Secondary Education (BISE).

Note: However, its continuation during the subsequent semesters will be subject to the condition that awardee must maintain his/her minimum GPA/CGPA of 3.50

Advanced Merit Scholarship for Top Rankers in University Merit Lists

Top merit position holders in Bahria University admission merit list according to their respective discipline will be awarded scholarships/fee waiver



as per following criteria:

a. Undergraduate Programs; Top three student scoring at least 70% in the merit lists for Management and Business Studies (considered together), Engineering (all Engineering programmes considered together) and Computer Sciences, shall be eligible for award of scholarship in the form of Tuition Fee waiver as follows:

- **1st Position Holder 75% Tuition Fee waiver**
- **2nd Position Holder 50% Tuition Fee waiver**
- **3rd Position Holder 30% Tuition Fee waiver**

Note: The top-ranking student scoring at least 70% in the merit lists for Law, Earth & Environment Sciences, Media Studies, Humanities & Social Sciences and Psychology, shall be eligible for award of scholarship in the form of 75% Tuition Fee waiver.

b. Post-Graduate Programs; The top-ranking student scoring at least 70% in the merit list of MBA, MS, MPhil, or equivalent at each CU shall be eligible for award of 50% tuition fee waiver.

Note: For continuation of the scholarship in the subsequent semesters for the above categories the students will be required to achieve a GPA/CGPA of at least 3.50.

Advanced Merit Scholarship for Outstanding Performers in A-Levels

Bahria University shall award scholarship 75% waiver/concession in tuition fee, to all students who have achieved minimum 03 A's in A Levels. Eligible students shall have to produce equivalence certificate issued from the Inter Board Committee of Chairmen (IBCC).

For continuation of scholarship in the subsequent semesters the students will be required to achieve a GPA/CGPA of at least 3.50

Exemption of Admission Fee to Bahria University Graduates/ Alumni for MBA/MS/MPhil/PhD Programs at Bahria University

Bahria University Graduate/Alumni shall be given 100% Admission fee waiver for admission in MBA/MS/MPhil and PhD Programs.

Incentives to attract High Achieving Candidates into PG Programs

The incentives to attract High Achieving Candidates into PG Programs will be as following:

a. From Non-Engineering background;

Candidates for PG programs (MBA/MS/MPhil/PhD) with 95% marks (in case of annual examination) or CGPA 3.75 from non-engineering programs in last degree from HEC recognized National & International Universities shall be offered 50% waiver in tuition fee.

b. From Engineering background; Candidates for PG programs (MBA/MS/MPhil/PhD) with 80 % marks (in case of Annual examination) CGPA 3.50 from engineering programs (in semester system), in last degree from HEC recognized National & International Universities shall be offered 50% waiver in tuition fee.

For continuation of scholarship in the subsequent semesters, the students will be required to achieve GPA/CGPA of at least 3.50 for Engineering and GPA/CGPA 3.75 for Non-Engineering program.

2. Merit Scholarships for Batch Toppers (For all semester based programs)

The merit Scholarships for Batch Toppers for all semester based programs will be as following:

a. For Undergraduate Programs; Top scorer students from each batch, achieving first three (03) position in their Semester Examination shall

SCHOLARSHIPS/FEE CONCESSIONS/ WAIVERS/STUDENT LOANS

be awarded Merit Scholarship as per following;

- 1st position Holder 70%
- 2nd Position Holder 40%
- 3rd Position Holder 30%

b. For Post-Graduate Programs (MBA/MS/MPhil/ PhD or Equivalent); Top scorer students from each batch, achieving first two (02) position in their Semester Examination shall be awarded Merit Scholarship as per following;

- **1st position Holder 70%**
- **2nd Position Holder 40%**

Eligibility Criteria; The criteria to qualify for the Merit Scholarship will be as following;

- a. The students of all programs are eligible for Merit Scholarship.
- b. The Merit scholarship shall be offered to students on the basis of GPA of their previous semester & tuition fee of their current semester.
- c. The students must achieve minimum GPA ≥ 3.75 in order to qualify for the award of Merit Scholarship for non-engineering program(s), in case of engineering & computing programs, student has to achieve minimum GPA ≥ 3.60 as per details mentioned above.
- d. In case of a tie, the student with the higher percentage will get the Scholarship. In case of a double tie, all students will be awarded the Scholarship.
- e. The student(s) have to follow the academic road map with regular course load for all type of Merit Based Scholarships.
- f. Student availing Naval fee concession will also be eligible for Merit scholarship as per policy,

however they can only avail one benefit at a time (i.e. fee reduction or merit scholarship).

g. BU Faculty and administrative staff qualify for Merit scholarship shall not be considered for award of scholarship if availing already any fee concession.

h. Merit Scholarship shall not be provided for the Summer Semester, final semester (Graduating Batch).

i. A student in receipt of more than one scholarship/waiver shall be eligible to avail one scholarship as per student(s) discretion.

j. For MS/MPhil only for 02 years of program, for the purpose of award of Merit Scholarship, the GPA of course work shall only be considered in the 3rd semester.

3. Financial Assistance Scholarship (FAS)

Financial Assistance Scholarship shall be offered to the needy and financially weak students in order to partially or fully support them. New intake after becoming bona-fide students and already enrolled students can apply subject to fulfilling the eligibility criteria. The scholarship once granted in this category remains available to the students for the entire degree program provided their performance shall not fall below GPA/CGPA 2.50.

Eligibility criteria for award of Financial Assistance scholarships; Following shall be the eligibility criteria to apply for Financial Assistance Scholarship Program:

- a. Financial Assistance Scholarship shall mainly focus on to support students from low-income background.
- b. Students of all programs are eligible for

Financial Assistance Scholarship subject to the condition he/she finds financial constraints to cope with educational expenses.

c. For fresh intake, results of their Matric, FA/FSc., O & A levels or equivalent be considered for award of scholarship

d. For the students enrolled in 2nd semester onwards shall be eligible to apply if he/she has a minimum 2.50 GPA/CGPA in the previous semester and for continuation at least 2.50 GPA/CGPA has to be maintained in the subsequent semesters. If the students fail to maintain 2.50 GPA/CGPA in the previous semester, then their scholarship shall be withheld till the time he/she improves academic grades to 2.50 GPA/CGPA.

e. Students with any physical disability shall be preferred

f. Students belonging to less developed areas (as identified by GoP) shall be preferred if fall under FAS eligibility criteria.

g. Students mentioning income and expenditure details has to justify with supporting documents.

4. Merit Scholarships at BUMDC (For Annual based Examinations)

For MBBS & BDS programs, merit scholarships for batch toppers shall be awarded on the basis of the result of annual examination except the final professional examination. The award shall be a lump sum amount for the year following the annual examination, as follows:

A. MBBS Students

Merit in Annual Exam	Scholarship Amount
1 st	Rs 100,000
2 nd	Rs 75,000
3 rd	Rs 50,000

B. BDS Students

Merit in Annual Exam	Scholarship Amount
1 st	Rs 100,000
2 nd	Rs 75,000

For all semester-based programs at BUMDC, general scholarship policy of BU shall be implemented i.e. Merit & Need based both (except Advance merit categories)

5. Study Loan/ Revolving Fund

A newly inducted student whose academic progress is impeded by the lack of financial resources to pay the fee(s), shall be eligible for financial support through the Study Loan. The loan will be interest-free and available to the students of all degree programs except MBBS and BDS, though the preference shall be given to UG students.

To apply for the loan, a student shall first secure admission and get the fee voucher. A student (only 1st semester intake) can request for the loan against the total 1st semester fee. The loan shall be processed through the Central Scholarship Committee with recommendations of the Head of the CU. Final approval shall be accorded by the Rector. Following rules shall apply:

a. The parents/guardians (spouse in case of a married student) shall be the joint borrower(s)/guarantors (irrespective of their



SCHOLARSHIPS/FEE CONCESSIONS/ WAIVERS/STUDENT LOANS

means and age of the student).

b. There shall be no security deposit by the applicant (student). A bond shall be signed between the applicant (student), his/her guarantor and BU, mentioning also the repayment schedule.

c. The final transcript or degree shall not be issued prior clearance of all payable loans by the student.

General Rules for Award of BU Scholarships

Eligibility of students for scholarship shall be subject to following conditions:

a. Student(s) of Bahria University in any semester are eligible, subject to the conditions as indicated with respect to their respective category.

b. The student(s) has to follow the academic road map with regular course load for all type of Merit Based Scholarships.

c. Student(s) already in receipt of one scholarship/fee concession from university or external resources are ineligible to apply for any other scholarship.

d. Progress of Financial Assistance and all Merit Based Scholarships will be reviewed every semester.

Any International student falling under Merit Scholarship category shall be awarded as per the policy. However, for Need Based scholarships, special approval shall be sought from Honorable Rector.

6. Sponsor a Student Scheme

Sponsor a Student Scholarship Scheme is introduced at Bahria University with an objective

to financially support students from less privileged class of society. For this specific program, University shall approach well off individuals/corporate companies'/donor agencies to financially support fully or partially the needy student(s). Interested sponsors shall be requested to bear the educational, expenses of the student(s) along with boarding/meal/books allowance as per sponsors willingness. Award of scholarship under this category shall be purely on Need based grounds, keeping in view the financial background of the applicant's family. This program shall be launched for all programs at UG and PG level both.

7. Interest Free Laptop Loan Scheme

Investment in youth has been recognized as the best long-term speculation for prosperous future of any nation. Bahria University facilitate its students in different ways to fulfill their dream of becoming successful graduates so as to perform exceptionally good in their practical life. Laptop is now an important gadget for students to perform their academic and research activities. In this information age, personal computing devices, like a laptop, is a must especially for students at Higher Education level. Keeping this reality in consideration and realizing its importance BU has launched its Loan policy for Laptop procurement w.e.f. Fiscal year 2020-21. This scheme shall support financially underprivileged students at UG Level to buy laptops as per their academic requirements.

Eligibility Criteria; Following shall be the eligibility criteria;

a. Loan for laptop procurement shall be offered to the students from 2nd semester to 6th

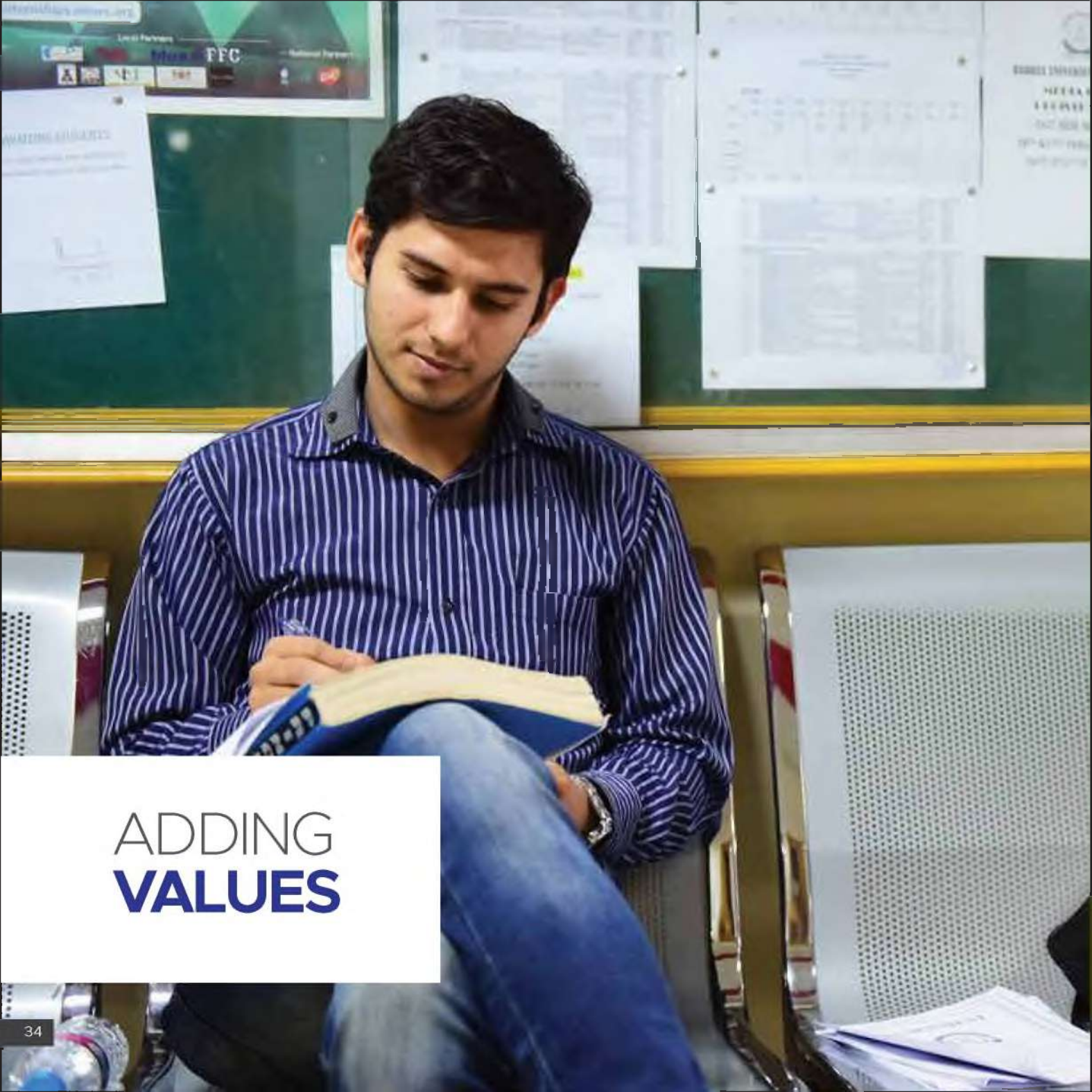


semester students holding minimum CGPA of 2.5 at UG level and in case of annual system student of 2nd year/3rd year with 50% Marks can apply/avail the facility.

b. Selection shall be made based on need assessment of students i.e. those students who cannot afford to buy laptops for their academic use shall be eligible to apply.

c. Two committees one at Campus Level and other at Head Office will evaluate the individual cases and put up the recommendation to Honorable Rector for final approval.





ADDING
VALUES

Learning & Teaching Methods:

Today Bahria University is considered to be one of Pakistan's 21st century, business-facing university. We are committed to giving our students the skills they need to succeed in the global marketplace.

We strive to develop the qualities of confidence, self-worth and high employable skills with in our students so that they can excel in the field they choose to work in We strive to achieve this by:

Combining traditional teaching methods by top academic staff with digital resources.

Teaching courses that are all designed with the input of business and professional bodies.

Giving students the change to learn about employability through listening to the experience of our alumni.

Organizing networking events where staff, students and graduates can meet.

Offering a vibrant multicultural campus.

Giving students the option of studying at one of our partner universities overseas.

Offering students valuable work experience in research, business or industry before their final academic year.

One of our aims is to bring higher education to a wider audience. We provide flexible learning opportunities for local residents and businesses, including:

Evening classes, summer schools and short courses at community venues

Public lectures and workshops

Part-time study, continuing education program, and new foundation degrees.



Career Office

Bahria University remains committed in providing not only quality academic services but also offers career services that include employment opportunities, professional grooming and counseling to its students and alumni. The Office of Student Affairs and Career Services keeps on strengthening academic linkages with industry in order to provide the market with our talented and skilled graduates as valuable workforce. Dedicated staff has been appointed in all BU Campuses to facilitate students and Alumni in best possible way. A very efficient mechanism is followed where the students and alumni are assisted in choosing the

right career paths and future goals. BU strive hard to meet the very dynamic requirements of job market and graduates by creating innovative ways of bridging the gap of academic world and industry. The Office of Student Affairs and Career Services acts as a central hub for its students and alumni and apart from routine job alerts, it organizes various training programs, seminars and workshops by inviting market professionals who share their expert opinion and experiences which helps the students in building a deep insight of the corporate world.

Career Counseling can help you:

- discuss your interest /profession
- discover what you can do along with your major
- learn the way to investigate profession fields, industries, and employers
- discover what an internship is, why you want one, and the way to get one
- Critique your resume
- develop networking talents

Getting Professional:

Professionalism, Evaluation & Learning Professionalism is a cornerstone of any organization and is essential to achieving excellence in research, education, clinical care and university and community service. It requires an ongoing commitment to honesty, integrity, respect, altruism, accountability, compassion, empathy and self-improvement. Bahria University reaffirms this commitment to a climate of respect, civility and cooperation among students, interns, residents, faculty, administrators, staff and society. Programs

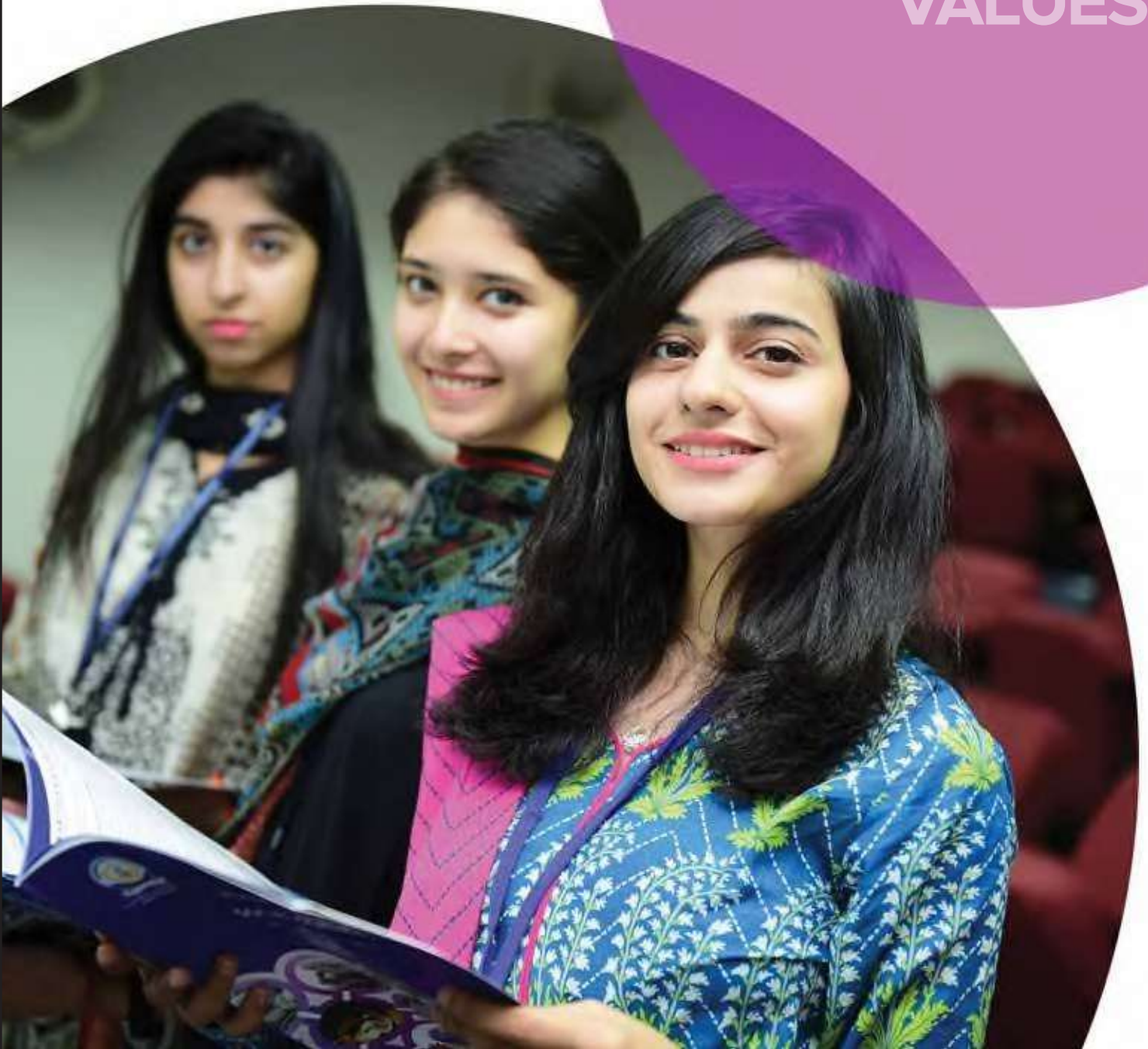
and services offered by Bahria University support and enhance the goals to educate and oversee student's personal and professional accountability as well as to ensure academic success. These include

- Faculty-student mentoring programs
- Course and instructor evaluations
- Administration of the Learning Resource Center
- Academic enrichment intervention strategies,
- Supervision of exam proctors,
- Academic enhancement workshops.

Interactive Approach:

Interactive learning is a hands-on approach to help students become more engaged and retain more material. With or without a form of technology, interactive learning helps students strengthen problem solving and critical thinking skills,

ADDING VALUES



ADDING VALUES



1. Brainstorming

Interactive brainstorming is typically performed in group sessions. The process is useful for generating creative thoughts and ideas. Brainstorming helps students learn to pull together. Types of interactive brainstorming include:

- Structured and unstructured
- Reverse or negative thinking
- Nominal group relationships
- Online interaction such as chat, forums and email
- Team-idea mapping
- Individual brainstorming

2. Think, Pair and Share

Establish a problem or a question. Pair the students. Give each pair sufficient time to form a conclusion. Permit each participant to define the conclusion in his or her personal voice. You can also request that one student explain a concept while the other student evaluates what is being learned. Apply different variations of the process.

3. Buzz session

Participants come together in session groups that focus on a single topic. Within each group, every student contributes thoughts and ideas. Encourage discussion and collaboration among the students within each group. Everyone should learn from one another's input and experiences.

4. Incident process

This teaching style involves a case study format, but the process is not as rigid as a full case study training session. The focus is on learning how to solve real problems that involve real people. Small groups of participants are provided details from actual incidents and then asked to develop a workable solution.

Personality Grooming:

Bahria University places strong emphasis on personality development of its graduates to improve their employability skills. In this regard a hybrid student grooming programme is in place focusing on both academic and non-academic activities. In terms of personality development through academic means, eight learning dimensions have been identified, that are covered in various subjects offered in the degree programmes at BU. This includes IT skills, numeracy skills, oral communication and public speaking skills, business communication skills, self-management, psychological & emotional development, career exploring and management and corporate skills. Understanding the importance of co-curricular activities, the university has also identified six personality dimensions that are focused for development in a student through various co-curricular activities including civic education, intellectual development, physical education, internationalization, social & emotional development and aesthetic development. So whether it is attending guest lectures by renowned speakers, participating in arts, dramatics, sports or music activities, they are all managed and planned in a way to ensure overall development of students' personality!

Facilities

Business Incubation Centre

Bahria Universities Business Incubation Centre (BIC) is dedicated to help students explore different spheres of research which include human needs, emerging technology and social trends. It seeks to create new ideas and businesses that are intuitive and enriching without losing sight of the experience and encounter. BIC tries to find a new sensibility that allows it to create products that focus on the augmentation of human capability and to further examine the boundaries between physical and mental limitations. Through projects that are self-initiated or developed in collaboration with industry, the Centre aims to experiment with and develop new design methods.

E- News Paper

The Bahria University Tribune, now published from Islamabad, is a try at your hand at journalistic writing or find out what it's like to work in the newspaper business? Students submit their articles on a weekly basis at The Tribune run by students. No matter what majors are, your participation is always welcomed.

FM Radio

BBahria University has the privilege to be among the few institutes in Pakistan to have its own FM Radio Channel. Functioning at the frequency of 106, the FM Radio provides an excellent opportunity for the students of Media Studies to get hands on experience in running and managing radio programs.

BU Media House

Bahria Media House is the project of BU to provide a platform for its students to showcase their talent and skills to the outer world through the medium of Web TV, FM Radio and Online Newspaper. The Media house equipped with State of the art facilities is the idyllic place for the pupils to pursue their dreams in the world of digitalization. Bahria University is creating artwork in a range of applications that include prospectuses/ catalogues and brochures and magazines.

BUTV

BUTV is Bahria University's student-operated media production network. Live-streamed programming is available at bahria.edu.pk and on campus television channel. BUTV produces an array of news, information, sports and variety programming. Open to any BU student is its annual membership. BUTV productions and administrative departments are based at the Bahria University Media House and Media Studies Department.

Networking Partners



Libraries

The Bahria University libraries aim to encourage and support academic and research activities of university researchers, faculty, staff and students. They provide a full range of services, including books loans, online information searching, reference services, photocopying, access to digital resources, CD searching and research support services, i.e. Endnote training and APA style manual, etc. The libraries are managed by qualified and experienced staff, dedicated to provide quality services for its users.





INTERNATIONAL LINKAGES

Internationalization is functioning at the heart of BU. Our University is one of the first few universities of the country that has a formal International Office setup to look after academic linkages and ties with international universities. The journey of internationalization of BU is now over a decade old with number academic partnerships in countries such as UK, USA, Australia, Canada, China, Turkey, Netherlands, Italy, Malaysia, Bangladesh, Iran & Thailand. There are several opportunities for the students of Bahria University to avail international experience through guest lectures by foreign speakers, short study tours to partner

UNITED KINGDOM

- University of Plymouth
- University of Bedfordshire
- University of Greenwich
- University of Leicester
- University of Nottingham
- University of Northampton
- York St. John University
- Corbett Cent – King's College
- Southampton Solent University
- Brunel University

UNITED STATES OF AMERICA

- MIT (Resource Sharing)
- University of Idaho
- Valparaiso University

NETHERLANDS

- Amsterdam University of Applied Sciences

CANADA

- Dalhousie University

CHINA

- Hangzhou Dianzi University
- Shanghai Lixin University
- Beijing Technology & Business University

BANGLADESH

- International University of Business, Agricultural & Technology

IRAN

- Chabahar Maritime University
- Damghan University

ITALY

- Trieste University

AUSTRALIA

- Griffith University
- Macquarie University
- Edith Cowan University

MALAYSIA

- AIMST University

THAILAND

- Burapha University

TURKEY

- Izmir University of Economics
- Istanbul Kemerburgaz University
- Istanbul Aydin University
- Dogus University
- Yasar University
- Erzurum Technical University
- Hakkari University
- University of Sirnak

Universities, participation in international conferences, attending international internships programmes, exchange of students for a semester with universities in Turkey, Australia & UK, credit transfer opportunities to selected partner universities on a 3+1 and 2+2 articulation arrangements, international summer school programmes and many more. To view list of existing partner universities of BU, please visit the University website. All international opportunities are advertised through International Office online portal available at www.bahria.edu.pk/internationalopportunities.

Research at **Bahria University**

Exploring the new trends and new facets of higher education and research has assumed added significance in the globalized world of the twenty-first century. Since the strength of today's economies is increasingly based on how well they can harness knowledge and expertise, the role of the higher education system has become crucial in international competition. BU undergraduates pursue independent research through personal Research Consultations and administration of competitive research grants. Bahria University as one of the Pakistan's leading universities, has a broad array of faculty conducting cutting-edge research in all disciplines. BU undergraduates become involved in research by identifying

resources, narrowing search, and shaping initial inquiries. Increase in international mobility in tertiary education, gave rise to new modes of competition within higher education and research. This situation stems from the technological revolution in communications, developments in science, as well as the very nature of knowledge, which now operates via accumulation and paradigm shift. Economic competition, Competition amongst academic and research institution and diversification & modernization are the three major trends that impose the importance of Research at Bahria University.





Life at **Bahria**

The BU Experience

Want to know what it's really like to be a student at Bahria University?

Bahria University focuses on strong academic grooming of the students along with emphasis on individual development by engaging them in various curricular & co-curricular activities. Bahria support individuals to achieve their goals and make them move forward their professional life. These are the opportunities which everybody is looking forward to enhance their knowledge base & soft skills.

Student life & Engagement is dedicated to offering modern programs to help students get involved on campus giving vast opportunities to expand leadership skills and pursue their future goals. The university works in close liaison with international partner universities to provide international exposure to our students.

Sports at BU

The importance of sports in the life of students is invaluable and plays a pivotal role in their overall development. With this perspective in view, the university provides many opportunities and facilities to its students to participate in international, national and university level sports.

A state of the art Gymnasium having wide range of indoor games facilities: courts for basketball, volley ball, badminton, a fitness room equipped with the latest machines is available at Islamabad Campus.





Music at BU

Extra-curricular activities including music are an integral part of life on the campus. Undergraduates, postgraduates, alumni and staff all contribute to the rich musical life of the University. Music Club is a student-run body comprising of a number of talented students of the university. The main objective of the music club is to expose and nurture the hidden talent of the students and giving the confidence to represent them nationwide as proud BU students. We are proud of this music heritage of the university that has produced world class singers such as Umair Jaswal, Uzair Jaswal and Shamir Aziz Quidwai. Groups and individuals are open to express their talent anytime.

Dramatics at Bahria University

Dramatic Arts education is an important means of stimulating creativity in problem solving. It can challenge student's perception, about their world and about themselves. Dramatic exploration can provide students with an outlet for emotions, thoughts, and dreams that they might not otherwise have means to express. A student can, if only for a few moments, become another, explore a new role, try out and experiment with various personal choices and solutions to very real problems from their own life, or problems faced by characters in literature or historical figures. This is perhaps the most important reason for Dramatic Arts in schools. Theater and Drama has also been a major part of our culture since the very beginning. BU has always provided means by which students can actively participate in the activities and express their different personalities.

Bahria University's Dramatics club is the Centre of attention. The club enables the students to polish their hidden talent performing live and is thus helping students to promote the culture in a positive manner. A huge body of students interested in performing live in theatres is encouraged by the administration of the university. Plays are being arranged in which students express themselves by performing on the most sensitive societal issues. It is not a 'traditional' drama society in the sense, but is made up of a committee which meets every week to discuss funding for shows and to make decisions which improve opportunities for drama across the University.





Bahria University **Psychological** **Services Centres**

Trauma Therapy Unit (TTU)

The Psychological Services Centres across Bahria University are committed to providing the best mental health services to all in need of assessment, counseling, and/or psychotherapy. High-quality, problem-focused, and ethical services are ensured. The Centres offer support to all enrolled students, faculty, staff and general public experiencing distress arising from various emotional issues.



Student Support Centre (SSC)

SSC is the hub of all non-academic activities and student centered services to maximize student potential by polishing student talents and skills, developing them into all-rounders with grooming interventions, self-help resources, interactive workshops and participation outside university. The Student Support Centre has a system under which it operates and provide support to students through following three wings:

- The Student Facilitation Centre
- Community Support Program
- Students Resource Centre





Bahria University
Discovering Knowledge

Institute of
Professional
Psychology
(IPP)

Bahria
University
Health
Sciences
(BUHS)

Programmes Offered

**Islamabad
Campus**

**Karachi
Campus**

**Lahore
Campus**

Rules and Regulations

Academic Rules

Bahria University is committed to fulfilling its core academic mission of educating students. At the same time the University must be prepared to respond to provide a framework that will guide the University in enhancing its ability to fulfill its academic mission in the face of potential threats to academic continuity. It is intended to apply to circumstances and events that are potential threats to the continuity of the academic operations of the University and relates entirely to the principles and processes that should guide the University in this context.

Code of Behavior on Academic Matters

The Academic Council of the University has approved a Code of Behavior on Academic Matters applying to members of the University. The Code of Behavior on Academic Matters addresses the responsibilities of all parties to the integrity of the teaching and learning experience. It concerns the accountability of faculty members and students as they cooperate in all phases of this relationship. Honesty and fairness must inform these activities, the foundation of which is mutual respect for the aims of education and for those ethical principles which characterize the pursuit and transmission of knowledge within the University.

Code of Student Conduct

Students have an obligation to make legal and responsible decisions concerning their conduct. The University has no general responsibility for the moral and social behavior of its students. In the exercise of its disciplinary authority and

responsibility, the University recognizes that students are free to organize their own personal lives, behavior, and associations subject only to the law and to University regulations that are necessary to protect the integrity and safety of University activities, the peaceful and safe enjoyment of University housing by residents and neighbors, or the freedom of members of the University to participate reasonably in the programs of the University and in activities in or on the University's premises.

Dress Code

Male Students

1. Dress/casual trousers
2. Jeans (plain blue) without any images graphics and writeups
3. Dress/casual shirts (half/full sleeves)
4. T-shirts without any images, messages, graphics and writeups.
5. Dress/casual shoes or joggers with socks. (no sandals)
6. Shalwar qameez with shoes (only on friday)
7. Suit/combination
8. Coat/pullover/sweater/jacket in winter.

Female Students

1. Shalwar qameez (no sleeveless)
2. Hijaab, abaya, chaddar
3. Full length jeans/trousers with long shirt/kurta (knee length) (no tights)
4. Light jewellery and light make up
5. Shoes, sandals and jogers
6. Duppatta/scarf compulsory with all dresses.

Note: BUHS students should wear white coat with colour coded (collar/sleeves) as appropriate

LIST OF OFFERED PROGRAMS

Business Studies

- ADP-Business Administration
- BBA
- MBA 1.5 & 2 Years
- MBA- Pharmaceuticals & Health Management

(BUKC)
(BUIC E-8, BULC, BUKC)
(BUIC E-8, BULC, BUKC)
(BUKC)

Computer Science

- ADP-Computer Science
- BS-Computer Science
- BS-Information Technology
- BS-Artificial Intelligence
- MS-Artificial Intelligence
- MS-Computer Science
- MS-Data Science
- MS- Information Security
- MS-Mathematics
- PhD-Computer Science
- PhD-Mathematics

(BUIC H-11, BUKC, BULC)
(BUIC E-8, BUIC H-11, BULC, BUKC)
(BUIC E-8, BULC, BUKC)
(BUIC E-8, BUIC H-11, BUKC)
(BUIC H-11, BUKC, BULC)
(BUIC E-8, BULC, BUKC)
(BUIC E-8)
(BUIC E-8)
(BUIC E-8)
(BUIC E-8, BULC, BUKC)
(BUIC E-8)

Humanities & Social Sciences

- BSS
- BS-Development Studies
- BS-English
- BS-International Relations
- BS-Public Health
- MS-Applied Anthropology
- MS-Government Public Policy
- MS-International Relations
- MS-English Linguistic
- PhD-International Relations

(BUKC)
(BUIC E-8)
(BUIC E-8, BULC, BUKC)
(BUIC E-8)
(BUIC E-8, BUKC)
(BUIC E-8)
(BUIC E-8)
(BUIC E-8)
(BUIC E-8, BUKC)
(BUIC E-8)

Islamic Studies

- MS-Islamic Studies (Islam & Life)
- PhD-Islamic Studies

(BUIC E-8, BUKC)
(BUIC E-8, BUKC)

Law

- LLB
- LLM
- PhD-International & Maritime Law

(BUIC E-8)
(BUIC E-8)
(BUIC E-8)

Management Studies

- BS-Accounting & Finance
- BS-Economics
- BS-Supply Chain Management
- BS-Business Analytics

(BUIC E-8, BUKC)
(BUIC E-8)
(BUIC E-8, BUKC)
(BUKC)

- BS-Business & Information Technology (BULC)
- MS-Business Analytics (BUIC E-8)
- MS-Finance (BUIC E-8)
- MS-Marketing & Sales (BUIC E-8)
- MS-Management Sciences (BUIC E-8, BULC)
- MS-Project Management (BUIC E-8, BULC, BUKC)
- MS-Supply Chain Management (BUIC E-8)
- MS-HRM & Organizational Psychology (BUKC)
- PhD-Economics (BUIC E-8)
- PhD-Management Science (BUIC E-8, BULC, BUKC)

Media Studies

- BS-Media Studies (BUIC E-8, BUKC)
- BS-TV Broadcasting & Digital Media (BUIC E-8)
- MS-Media Studies (BUIC E-8, BUKC)
- PhD-Media Studies (BUIC E-8)

Psychology

- AD- Infant, Child & Adolescent Mental Health) (BUIC H-11)
- BS-Psychology (BUIC E-8, BUIC H-11, IPP-Karachi)
- BS-Psychology (Clinical Psychology) (BUIC E-8, BUIC H-11, BULC & IPP)
- MPhil-Professional Psychology (BUIC E-8, IPP-Karachi)
- MS-Clinical Psychology (BUIC E-8, BUIC H-11, BULC, IPP)
- PhD-Professional Psychology (IPP-Karachi)
 - Clinical Psychology
 - Educational Psychology
 - Organizational Psychology

Computer Engineering

- BCE (BUIC H-11, BUKC)
- MS-Computer Engineering (BUIC H-11)
- PhD-Computer Engineering (BUIC H-11)

Earth & Environmental Sciences

- BS-Environmental Sciences (BUIC H-11, BUKC)
- BS-Geology (BUIC H-11)
- BS-Geo Physics (BUIC H-11)
- BS-Remote Sensing & GIS (BUIC H-11, BUKC)
- MS-Environmental Science (BUIC H-11, BUKC)
- MS-Geology (BUIC H-11)
- MS-Geo Physics (BUIC H-11)
- PhD-Environmental Sciences (BUIC H-11)
- PhD-Geology (BUIC H-11)
- PhD-Geo Physics (BUIC H-11)

Electrical Engineering

- BEE (BUIC H-11, BUKC)
- BS-Robotics Intelligence Systems (BUIC H-11, BUKC)
- MS-Electrical Engineering (BUIC H-11, BUKC)
- PhD-Electrical Engineering (BUIC H-11, BUKC)

Software Engineering

- BSE (BUIC H-11, BUKC)
- MS-Software Engineering (BUIC H-11, BUKC)
- PhD-Software Engineering (BUIC H-11, BUKC)

Maritime Sciences

- BS-Maritime & Business Management 2 Years (BUKC)
- BS-Maritime & Business Management 4 Years (BUKC)
- MS-Maritime Ports & Shipping Management (BUKC)
- MS-Maritime Trade & Logistics (BUKC)

Health Sciences

- MS-MLS (BUHS-KC)
- MPhil-Anatomy (BUHS-KC)
- MPhil-Biochemistry (BUHS-KC)
- MPhil-Pharmacology (BUHS-KC)
- MPhil-Physiology (BUHS-KC)
- MPhil-Pathology (BUHS-KC)
- PhD-Health Sciences (BUHS-KC)

Hospitality Management

- BS- Hospitality & Tourism Management (BU-HSHM)

Associate Degree in Business Administration

Program Title: Associate Degree in Business Administration
Duration: 2 Years
Eligibility Criteria: Intermediate or it's equivalent with a minimum of 50% marks (excluding NCC) in any discipline
Road Map of AD-BA

Semester 1

S. No	Course Code	Course Title	Credit Hours
1	ENG 101	Functional English	3
2	MKT 110	Principle of Marketing	3
3	MGT 111	Principles of Management	3
4	QTM 122	Business Mathematics & Numeracy Skills	3
6	MIS 161	IT in Business (word, excel)	3
6	PAK 109	Ideology and Constitution of Pakistan	2
7	ISL 107	Tajweed	0

Semester 2

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1	ENG 101	EN G 102	English Writing Skills	3
2	None	SOC 212	Critical and Logical Thinking	3
3	None	ECO 110	Microeconomics	3
4	None	ENV 120	Introduction to Environment and Sustainability	3
5	None	QT M 110	Business Statistics	3
6	None	ACC 101	Principles of Accounting	3
7		ISL 203	Fehmu e Quran I	1

***For non-Muslim:** Any University approved 02 (or more) credit hours of Interdisciplinary Course

Semester 3

Sr. No.	Pre-requisite Courses	Course Code	Course Title	Credit Hours
1	ENG 102	ENG 213	Oral Communication and Presentation Skills	3
2	QTM 110	QTM 205	Statistical Inference and Quantitative Research	3
3	ACC 101	ACC 102	Financial Accounting	3
4	ECO 110	ECO 121	Macroeconomics	3
5		HSS 219	Civic and Community Engagement	2
6		ISL 101/ ETH 102	Islamic Studies/Ethics	2
7		PAK 105	Pakistan Studies	2

Semester 4

Sr. No.	Pre-requisite Courses	Course Code	Course Title	Credit Hours
1		HSS 301	Social & Psychological Development	3
2	MKT 110	MKT 231	Marketing Management	3
3	MGT 111	MGT 242	Organizational Theory & Behavior	3
4	MGT 111	MGT 363	Entrepreneurship	3
5	ACC 102	FIN 201	Fundamentals of Finance	3
6		MIS 461	Advanced Application of IT	3
7		ISL 204	*Fehm-e-Quran – II	1
Total Credit Hours				19

***For non-Muslim:** Any University approved 02 (or more) credit hours of Interdisciplinary Course

Field Experience / Internship

Sr. No.	Pre requisite Courses	Course Code	Course Title	Credit Hours
1		SDW 498	Field Experience / Internship*	3

- ❖ 6 weeks Internship.
- ❖ Honors, Awards, & Scholarships will be calculated on the basis of coursework only, excluding internship credit hours.
- ❖ The Quran and Seerah program is optional for the Non-Muslim students.

List of Social Sciences Courses

Course Code	Course Title	Credit Hours
HSS 109	Arabic	2
HSS 163	Chinese	2
HSS 160	French	2
HSS 164	German	2
HSS 161	Russian	2
HSS 162	Spanish	2
HSS 214	Turkish	2

Bachelor in Business Administration

Program Title: Bachelor in Business Administration
Duration: 4 Years Total
Eligibility Criteria: Intermediate or it's equivalent with a minimum of 50% marks (excluding NCC) in any discipline

Roadmap of BBA

Semester 1

Sr. No.	Course Code	Course Title	Credit Hours
1	ENG 101	Functional English	3
2	MKT 110	Principle of Marketing	3
3	MGT 111	Principles of Management	3
4	QTM 122	Business Mathematics & Numeracy Skills	3
5	MIS 161	IT in Business (word, excel)	3
6	PAK 109	Ideology and Constitution of Pakistan	2
7	ISL 107	Tajweed	0

Semester 2

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1	ENG 101	ENG 102	English Writing Skills	3
2		ISL 101 /ETH 102	Islamic Studies/Ethics	2
3		ECO 110	Microeconomics	3
4		ENV 120	Introduction to Environment and Sustainability	3
5		QTM 110	Business Statistics	3
6		ACC 101	Principles of Accounting	3
7		ISL 203	*Fehm-e-Quran – I	1

***For non-Muslim:** Any University approved 02 (or more) credit hours of Interdisciplinary Course

Semester 3

Sr. No.	Pre-requisite Courses	Course Code	Course Title	Credit Hours
1	ENG 102	ENG 213	Oral Communication and Presentation Skills	3

2	QTM 110	QTM 205	Statistical Inference and Quantitative Research	3
3	ACC 101	ACC 102	Financial Accounting	3
4	ECO 110	ECO 121	Macroeconomics	3
5		SOC 212	Critical and Logical Thinking	3
6	PAK 109	PAK 105	Pakistan Studies	2

Semester 4

Sr. No.	Pre-requisite Courses	Course Code	Course Title	Credit Hours
1		HSS 301	Social & Psychological Development	3
2	MKT 110	MKT 231	Marketing Management	3
3	MGT 111	MGT 242	Organizational Theory & Behaviour	3
4	MGT 111	MGT 363	Entrepreneurship	3
5	ACC 102	FIN 201	Fundamentals of Finance	3
6		HSS 219	Civic and Community Engagement	2
7		ISL 204	*Fehm-e-Quran – I I	1

***For non-Muslim:** Any University approved 02 (or more) credit hours of Interdisciplinary Course

Semester 5

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1	ENG 213	ENG 214	Business Communication	3
2	ACC 102	ACC 203	Cost Accounting	3
3	FIN 201	FIN 202	Financial Management	3
4		MGT 311	Career Exploring Management	3
5	MGT 111	SCM 360	Supply Chain Management	3
6	MGT 242	HRM 253	Human Resource Management	3

Semester 6

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
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1	ACC 203	ACC 304	Managerial Accounting	3
2		MIS 461	Advanced Application of IT	3
3	QTM 122	OPM 360	Operation & Production Mgt.	3
4		MGT 301	Business Law	3
5		SOC 350	Business Ethics	3
6	FIN 201	FIN 649	Islamic Banking and Finance	3

Semester 7

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1	MGT 111	MGT 487	Change Management	3
2		MIS 460	E-Commerce	3
3		MGT 435	Project Management	3
4	QTM 205	RMT 240	Research Methods & Techniques	3
5			Specialization-I	3
6			Specialization-II	3
7		ISL 113	Seerah – I	0

Semester 8

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		MGT 643	Corporate Skills	3
2			Specialization-III	3
3			Specialization-IV	3
4			Capstone Project	3
5		ISL 114	Seerah – II	0

Field Experience / Internship

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		SDW 498	Field Experience / Internship*	3

- 6 weeks Internship after 4th Semester in the Summer semester, preferably.
- Honours, Awards, & scholarships will be calculated on the basis of coursework only, excluding internship credit hours.
- The Quran and Seerah program are optional for non-Muslim students.

BBA (ELECTIVES LIST)

Marketing

Course Code	Course Title	Credit Hours	HEC Category	UN SDGs
MKT 610	International Marketing	3	Electives	SDG 4
MKT 655	Services Marketing	3	Electives	SDG 9, 17
MKT 660	Strategic Marketing	3	Electives	SDG 8, 17
MKT 665	Cases in Marketing	3	Electives	SDG 9, 10
MKT 635	New Product Development	3	Electives	SDG 4,7 and 8
MKT 662	Brand Management	3	Electives	SDG 12,9
MKT 688	Social Media Marketing	3	Electives	SDG 2,17
MKT 699	Consumer Behaviour and Psychology	3	Electives	SDG 10
MKT 690	Integrated Marketing Communication	3	Electives	SDG 10, 17
MKT 650	Sales Management	3	Electives	
MKT 620	Marketing Research	3	Electives	SDG 9
MKT 693	B to B and Personal Selling	3	Electives	SDG 12
MKT 663	Promotion and Advertising Management	3	Electives	SDG 4,17
MKT 689	Digital Marketing	3	Electives	SDG 4, 7
MKT 691	Retail and Sales Management	3	Electives	SDG 8
MKT 692	Export Marketing	3	Electives	SDG 9,17
MKT 693	Marketing Issues in Pakistan	3	Electives	SDG 4, 12
MKT 694	Public Rationing and Relationship Marketing	3	Electives	SDG 4,17
MKT 695	Agriculture Marketing	3	Electives	SDG 1,4
MKT 603	Product Management	3	Electives	SDG 12
MKT 604	Distribution Management	3	Electives	SDG 8
MKT 605	Digital Analytics	3	Electives	SDG 9,12

MKT 606	Electronic CRM	3	Electives	SDG 7,17
MKT 697	Social Marketing	3	Electives	SDG 4,8
MKT 681	Copywriting Concepts, Protocols and Practices	3	Electives	SDG 4

Human Resource Management

Course Code	Course Title	Credit Hours	HEC Category	UN SDGs
HRM 666	Negotiations and Conflict Management	3	Electives	SDG 16
HRM 648	Organizational Development	3	Electives	SDG 10
HRM 676	International Human Resource Management	3	Electives	SDG 4
HRM 677	Seminars In HRM	3	Electives	SDG 4
HRM 689	Recruitment and Selection	3	Electives	SDG 10
HRM 679	Performance Management	3	Electives	SDG 10
HRM 690	HRM and HRD	3	Electives	SDG 4
HRM 691	Career Planning and Strategic Compensation Management	3	Electives	SDG 4
HRM 660	Training and Development	3	Electives	SDG 8
HRM 670	HR Planning	3	Electives	SDG 4
HRM 664	Job Analysis and Design	3	Electives	
HRM 649	HR Research Methods	3	Electives	SDG 8
HRM 682	Industrial Relations and Employment Laws	3	Electives	SDG 8
HRM 671	HR Information Systems	3	Electives	SDG 9
HRM 681	Strategic HRM	3	Electives	SDG 10
HRM 665	HR Theory and Practice	3	Electives	SDG 10
HRM 692	Organizational Psychology	3	Electives	SDG 10
HRM 695	HR Analytics	3	Electives	SDG 9

Finance

Course Code	Course Title	Credit Hours	HEC Category	UNSDGs
FIN 690	Financial Modelling	3	Electives	SDG 4
FIN 698	Strategic Finance	3	Electives	SDG 4
FIN 612	Analysis of Financial Statements	3	Electives	SDG 4

FIN 619	Financial Derivatives	3	Electives	SDG 8
FIN 611	Corporate Finance	3	Electives	SDG 4
FIN 692	Financial Markets and Institutions	3	Electives	SDG 10
FIN 693	Cases in Corporate Finance	3	Electives	SDG 4
FIN 523	FinTech	3	Electives	SDG 10
FIN 695	Investment Analysis and Portfolio Management	3	Electives	SDG 4
FIN 635	Management Corporate Turnaround	3	Electives	SDG 4
FIN 696	Financial Reporting	3	Electives	SDG 4, 8
FIN 697	Taxation and Auditing	3	Electives	SDG 10
ACC 622	Accounting Information Systems	3	Electives	SDG 9
FIN 682	Corporate Restructuring	3	Electives	SDG 9
FIN 688	Islamic Finance Theory and Practices	3	Electives	
ACC 608	Advanced Corporate Reporting	3	Electives	SDG 4
FIN 616	Management of Financial Institutions	3	Electives	SDG 4
FIN 600	Entrepreneurial Finance	3	Electives	SDG 4, 8
FIN 601	Debt Capital Markets	3	Electives	SDG 4
FIN 608	Mutual and Pension Funds	3	Electives	SDG 4, 9
FIN 604	Equity Capital Markets	3	Electives	SDG 4,8
FIN 665	Behavioural Finance & Wealth Management	3	Electives	SDG 4, 9
FIN 625	Commodities and Derivatives Markets	3	Electives	SDG 8
FIN 461	Fundamentals of Behavioural Finance	3	Electives	SDG 8, 4
FIN 522	SAP Financial Data Analytics	3	Electives	SDG 4
FIN 524	Shariah Standards for Islamic Financial Institutions	3	Electives	SDG 9
FIN 684	Financial Engineering	3	Electives	SDG 8, 4
FIN 685	Business Intelligence	3	Electives	SDG 4

Entrepreneurship

Course Code	Course Title	Credit Hours	HEC Category	UNSDGs
ENT 602	Cases in Entrepreneurship	3	Electives	SDG 8
ENT 603	Developing New Products and Services	3	Electives	SDG 4, 8
ENT 620	Entrepreneurial Strategy in Emerging Markets	3	Electives	SDG 4, 9
ENT 606	Innovation s and Entrepreneurship	3	Electives	SDG 4,8
ENT 607	Managing Entrepreneurial Firms	3	Electives	SDG 4
ENT 608	Social Responsibility and Entrepreneurship	3	Electives	SDG 4, 8
ENT 622	Business Growth and Entrepreneurial Finance	3	Electives	SDG 9
ENT 612	Entrepreneurial Marketing	3	Electives	SDG 4
ENT 613	Organizations and Leading Change	3	Electives	SDG 4,9
ENT 614	Economic of Location and Transportation	3	Electives	SDG 4,17
ENT 621	Retailing and International Entrepreneurship	3	Electives	SDG 4,9
ENT 617	Corporate Entrepreneurship	3	Electives	SDG 4,8
ENT 619	Technology Entrepreneurship	3	Electives	SDG 4,9

Supply Chain Management

Course Code	Course Title	Credit Hours	HEC Category	UNSDGs
SCM 619	Strategic SCM	3	Electives	SDG 9
OPM 611	Operations and Production Management	3	Electives	SDG 12
SCM 650	Total Quality Management	3	Electives	SDG 4
SCM 600	Inventory Management	3	Electives	SDG 4
SCM 614	Strategic Operation Management	3	Electives	SDG 4
SCM 615	Sourcing and Logistics Management	3	Electives	SDG 4
SCM 616	Supply Chain Modelling	3	Electives	SDG 12
SCM 617	Demand Forecasting	3	Electives	SDG 12
SCM 618	Pricing In SCM	3	Electives	SDG 4
SCM 520	Purchasing	3	Electives	SDG 12
SCM 630	Strategic Procurement in Supply Chain	3	Electives	SDG 12

SCM 631	Operational Planning in Supply Chain	3	Electives	SDG 4
SCM 632	Execution and Control of Operations in SCM	3	Electives	SDG 12
SCM 633	Master Planning of Resources in SCM	3	Electives	SDG 12
SCM 634	Detailed Scheduling and Planning In SCM	3	Electives	SDG 12
SCM 635	Strategic Management of Resources In SCM	3	Electives	SDG 12
SCM 636	Green Supply Chain Management – GSCM	3	Electives	SDG 14
SCM 637	Shipping in SCM	3	Electives	SDG 14
SCM 639	Operational Planning in Supply Chain	3	Electives	SDG 4
SCM 638	Supply Chain Strategy, Design and Compliance	3	Electives	SDG 12
SCM 640	Supply Chain Implementation and Operations	3	Electives	SDG 12
SCM 641	Fundamentals of Supply Chain Management	3	Electives	SDG 4
SCM 621	Operations Research	3	Electives	SDG 4

Management Information System

Course Code	Course Title	Credit Hours	HEC Category	UNSDGs
MIS 655	Database Management System	3	Electives	SDG 9
MIS 620	System Analysis and Design	3	Electives	SDG 8,7
MIS 679	Enterprise Resource Planning (ERP) Implementation	3	Electives	SGD 8,4
MIS 672	Web Application Development	3	Electives	SDG 9
MIS 625	Business Process Re-Engineering	3	Electives	SDG 9,7
MIS 680	Data Communication and Networking	3	Electives	SDG 17,9
MIS 681	Information Security and System Auditing	3	Electives	SDG 9, 12
MIS 657	Knowledge Management Systems and Technologies	3	Electives	SDG 8, 9
MIS 658	Business Intelligence and Decisions Support	3	Electives	SDG 9,4
MIS 608	Digital Analytics	3	Electives	SDG 9,7
MKT 607	Electronic CRM	3	Electives	SDG 17,4

Maritime

Course Code	Course	Cr Hr.	HEC Category	SDG
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MTM 101	Introduction to Maritime Industry	3	Electives	SDG 4
MTM 230	Introduction to Maritime Law and International Maritime Convention	3	Electives	SDG 16
MTM202	Economics of Sea Transport & International Trade	3	Electives	SDG 14
MTM 222	Introduction to Coastal Zone Management	3	Electives	SDG 14
MTM 304	Port Operations and Management	3	Electives	SDG 4
MTM 306	Shipping Operations and Management	3	Electives	SDG 4
MTM 322	Fisheries Resources & Management	3	Electives	SDG 14
MTM 401	Coastal Eco-Tourism Development and Management	3	Electives	SDG 14
MTM 403	Maritime Innovation & Entrepreneurship	3	Electives	SDG 9
MTM 501	Maritime Business: China Pakistan Perspective under CPEC	3	Electives	SDG 4
MTM 521	Maritime Business and HRM		Electives	SDG 10
MTM 504	Maritime Management: Concept and Applications	3	Electives	SDG 10
MTM 505	Contemporary Issues of Maritime Management	3	Electives	SDG 16
MTM 506	Maritime Management in Pakistan: Past, Present and Future	3	Electives	SDG 16
HRM 508	Marine Environments and Administration	3	Electives	SDG 13
ECO-363	Introduction to Blue and Green Economy	3	Electives	SDG 13

List of Social Sciences Courses

Course Code	Course Title	Credit Hours
HSS 109	Arabic	2
HSS 163	Chinese	2
HSS 160	French	2
HSS 164	German	2
HSS 161	Russian	2
HSS 162	Spanish	2
HSS 214	Turkish	2

Masters of Business Administration

Program Title: Masters of Business Administration

Duration: 2 Years

Eligibility Criteria: 16 years of education (Business / Non Business) with minimum CGPA of 2.0/4 (Semester System) or 50% marks (Annual System).

Semester 1

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		MKT	Business Communication	3
2		ACC 501	Financial Accounting	3
3		MGT 501	Supply Chain Management	3
4		BCM 512	Principles of Marketing	3
5		QTM 504	Theories and Practices of Management	3

Semester 2

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		HRM 533	Human Resource Management	3
2	ACC 702	ACC 502	Cost and Managerial Accounting	3
3	MGT 731	ECO 520	Economics	3
4	ACC 501	FIN 502	Financial Management	3
5		RMT 620	Methods in Business Research	3

Semester 3

Sr. No.	Pre requisite Courses	Course Code	Course Title	Credit Hours
1		MGT 501	Strategic Management	3
2		FIN 502	Corporate Finance	3
3		THS 799	Dissertation (Proposal Development)	3
4			Specialization I	3
5			Specialization II	3
6		ISL 203	*Fehm-e-Quran – I	1

Semester 4

Sr. No.	Pre requisite Courses	Course Code	Course Title	Credit Hours
1		MGT 749	Corporate Leadership Skills	3
2		MGT 702	Contemporary Issues in Business	3
3		THS 799	Thesis Write-up and Defense	3
4			Specialization III	3
5			Specialization IV	3
6		ISL 204	*Fehm-e-Quran – II	1

List of Specialization Courses

Course Codes	Course Title	Credit Hours	Category	SDGs
MARKETING				
MKT 710	International Marketing	3	Elective	SDG 4
MKT 711	Services Marketing	3	Elective	SDG 9, 17
MKT 712	Strategic Marketing	3	Elective	SDG 8, 17
MKT 713	Cases in Marketing	3	Elective	SDG 9, 10
MKT 714	New Product Development	3	Elective	SDG 4,7 and 8
MKT 718	Consumer Behavior and Psychology	4	Elective	SDG 11
MKT 719	Integrated Marketing Communication	3	Elective	SDG 10, 17
MKT 724	Digital Marketing	3	Elective	SDG 4, 7
MKT 726	Export Marketing	3	Elective	SDG 9,17
MKT 727	Marketing Issues in Pakistan	3	Elective	SDG 4, 12
MKT 731	Distribution Management	3	Elective	SDG 8
MKT 732	Digital Analytics	3	Elective	SDG 9,12
MKT 733	Electronic CRM	3	Elective	SDG 7,17
MKT 734	Social Marketing	3	Elective	SDG 4,8
MKT 736	Marketing Analytics	3	Elective	SDG 4, 7
MKT 737	Pricing Models and Strategies	3	Elective	
MKT 738	Marketing of Financial Services	3	Elective	
MKT 739	Industrial Marketing	3	Elective	

MKT 740	Marketing Channels	3	Elective	
HUMAN RESOURCE MANAGEMENT				
HRM 703	International Human Resource Management	3	Elective	SDG 4
HRM 704	Seminars In HRM	3	Elective	SDG 4
HRM 705	Recruitment and Selection	3	Elective	SDG 10
HRM 706	Performance Management	3	Elective	SDG 10
HRM 707	HRM and HRD	3	Elective	SDG 4
HRM 714	HR Information Systems	3	Elective	SDG 9
HRM 715	Strategic HRM	3	Elective	SDG 10
HRM 716	HR Theory and Practice	3	Elective	SDG 10
HRM 710	HR Planning	3	Elective	SDG 4
FINANCE				
FIN 701	Financial Modeling	3	Elective	SDG 4
FIN 702	Strategic Finance	3	Elective	SDG 4
FIN 706	Financial Markets and Institutions	3	Elective	SDG 10
FIN 707	Cases in Corporate Finance	3	Elective	SDG 4
FIN 708	Money and Banking	3	Elective	SDG 10
FIN 709	Investment Analysis and Portfolio Management	3	Elective	SDG 4
FIN 713	Taxation and Auditing	4	Elective	SDG 11
FIN 713	Corporate Restructuring	3	Elective	SDG 9
FIN 714	Islamic Finance Theory and Practices	3	Elective	SDG 9
FIN 724	Advanced Corporate Reporting	3	Elective	SDG 4
FIN 716	Management of Financial Institutions	3	Elective	SDG 4
FIN 717	Entrepreneurial Finance	3	Elective	SDG 4, 8
FIN 718	Debt Capital Markets	3	Elective	SDG 4
FIN 719	Mutual and Pension Funds	3	Elective	SDG 4, 9
FIN 720	Equity Capital Markets	3	Elective	SDG 4, 8
FIN 721	Behavioral Finance & Wealth Management	3	Elective	SDG 4, 9
FIN 722	Commodities and Derivatives Markets	3	Elective	SDG 8
FIN 736	Accounting Information Systems	3	Elective	SDG 9

FIN 725	Investment Banking and Security Analysis	3	Elective	
FIN 726	Asset and Liability Management	3	Elective	
FIN 727	SME and Micro-Financing	3	Elective	
FIN 728	Mergers, Acquisitions and Restructuring	3	Elective	
FIN 729	Enterprise Risk Management	3	Elective	
FIN 730	Islamic Financial Services Marketing	3	Elective	
FIN 731	Islamic Capital Markets	3	Elective	
FIN 732	International Islamic Finance Standards	3	Elective	
FIN 733	Takaful and Risk Management in Islamic Products	3	Elective	
FIN 734	Financial Risk Management	3	Elective	
FIN 735	International Finance	3	Elective	
	AI and Data Science for Business	3	Elective	SDG 4, 9
ENTREPRENEURSHIP				
ENT 702	Cases in Entrepreneurship	3	Elective	SDG 8
ENT 704	Entrepreneurial Strategy in Emerging Markets	3	Elective	SDG 4, 9
ENT 705	Innovations and Entrepreneurship	3	Elective	SDG 4,8
ENT 706	Managing Entrepreneurial Firms	3	Elective	SDG 4
ENT 709	Entrepreneurial Marketing	3	Elective	SDG 4
ENT 711	Economic of Location and Transportation	3	Elective	SDG 4,17
ENT 712	Retailing and International Entrepreneurship	3	Elective	SDG 4,9
ENT 715	Competitive Strategies for Startup	3	Elective	
ENT 716	Technology Support for Small Business	3	Elective	
ENT 717	Innovative Internet Based Business Models	3	Elective	
ENT 718	Guerrilla Strategies in Business	3	Elective	
ENT 719	Affordable Design and Frugal Innovation	3	Elective	
ENT 720	Commercializing and Monetizing Ideas	3	Elective	
ENT 721	Building and Managing Start-Up Teams	3	Elective	
ENT 722	New Venture Finance	3	Elective	

ENT 723	Managing Family Business	3	Elective	
ENT 724	Growth Hacking Strategies	3	Elective	
ENT 725	Design Thinking and Strategy	3	Elective	
	MIS			
MIS 704	Enterprise Resource Planning (ERP) Implementation	3	Elective	SGD 8,4
MIS 705	Web Application Development	3	Elective	SDG 9
MIS 706	Business Process Re-Engineering	3	Elective	SDG 9,7
MIS 710	Business Intelligence and Decisions Support	3	Elective	SDG 9,4
MIS 711	Digital Analytics	3	Elective	SDG 9,7
MIS 712	Electronic CRM	3	Elective	SDG 17,4
MIS 713	Business Analytics with Data for Non-Coders	3	Elective	SDG 8
MIS 714	Applied Data Analysis	3	Elective	SDG 8,7
MIS 715	Big Data, Big Responsibilities: The Law and Ethics of Business Analytics	3	Elective	SDG 8
MIS 716	Intro to Python for Data Science	3	Elective	SDG 9
MIS717	Applied Machine Learning in Business	3	Elective	SDG 17
MIS 718	Data visualization	3	Elective	SDG 7
	SUPPLY CHAIN MANAGEMENT			
SCM 735	Operations and Production Management	3	Elective	SDG 12
SCM 736	Total Quality Management	3	Elective	SDG 4
SCM 738	Strategic Operation Management	3	Elective	SDG 4
SCM 740	Supply Chain Modeling	3	Elective	SDG 12
SCM 742	Purchasing	3	Elective	SDG 12
SCM 713	Operational Planning in Supply Chain	3	Elective	SDG 4
SCM 714	Execution and Control of Operations in SCM	3	Elective	SDG 12
SCM 715	Master Planning of Resources in SCM	3	Elective	SDG 12
SCM 716	Detailed Scheduling and Planning in SCM	3	Elective	SDG 12
SCM 717	Strategic Management of Resources in SCM	3	Elective	SDG 12
SCM 718	Green Supply Chain Management – GSCM	3	Elective	SDG 14

SCM 720	Operational Planning in Supply Chain	3	Elective	SDG 4
SCM 743	Supply Chain Strategy, Design and Compliance	3	Elective	SDG 12
SCM 744	Supply Chain Implementation and Operations	3	Elective	SDG 12
SCM 747	Quantitative Methods in Production and Logistics	3	Elective	SDG 4
SCM 748	Business Process Mgmt. in Supply Chain & Logistics	3	Elective	SDG 4
SCM 749	IT Applications in Logistics	3	Elective	SDG 12
SCM 750	Packaging Design and Environmental Aspects	3	Elective	SDG 12
SCM 751	ERP Systems Design and Implementation	3	Elective	SDG 4
SCM 752	Strategic Supply Chain Management	3	Elective	SDG 12
SCM 753	Procurement and Inventory Management	3	Elective	SDG 4
SCM 754	Storage and Warehouse Techniques	3	Elective	SDG 14
SCM 755	Transportation Techniques and Management	3	Elective	SDG 4
SCM 756	Sustainability & Env. Aspects in Managing Supply Chains	3	Elective	SDG 12
SCM 757	Risk Management in Supply Networks	3	Elective	SDG 4
SCM 758	Innovation Management in Supply Chain and Logistics	3	Elective	SDG 4
SCM 759	Corporate Consultancy Project in Logistics	3	Elective	SDG 12
SCM 760	Contract Management for Supply Chain & Negotiations	3	Elective	SDG 4
SCM 761	Life Cycle Enterprise Asset Management	3	Elective	SDG 4
SCM 762	Mobile Commerce and Mobile Logistics	3	Elective	SDG 12
SCM 763	Supply Chain Finance	3	Elective	SDG 3
SCM 764	Warehouse and Inventory Management	3	Elective	SDG 4
SCM 765	Supply Chain Digitization	3	Elective	SDG 12
Maritime				
	Introduction to Maritime Industry	3	Electives	SDG 4
	Introduction to Maritime Law and International Maritime Convention	3	Electives	SDG 16
	Economics of Sea Transport & International Trade	3	Electives	SDG 14
	Introduction to Coastal Zone Management	3	Electives	SDG 14
	Port Operations and Management	3	Electives	SDG 4

	Shipping Operations and Management	3	Electives	SDG 4
	Fisheries Resources & Management	3	Electives	SDG 14
	Coastal Eco-Tourism Development and Management	3	Electives	SDG 14
	Maritime Innovation & Entrepreneurship	3	Electives	SDG 9
	Maritime Business: China Pakistan Perspective under CPEC	3	Electives	SDG 4
	Maritime Business and HRM		Electives	SDG 10
	Maritime Management: Concept and Applications	3	Electives	SDG 10
	Contemporary Issues of Maritime Management	3	Electives	SDG 16
	Maritime Management in Pakistan: Past, Present and Future	3	Electives	SDG 16
	Marine Environments and Administration	3	Electives	SDG 13
	Introduction to Blue and Green Economy	3	Electives	SDG 13

List of Social Sciences Courses

Course Code	Course Title	Credit Hours
HSS 109	Arabic	2
HSS 163	Chinese	2
HSS 160	French	2
HSS 164	German	2
HSS 161	Russian	2
HSS 162	Spanish	2
HSS 214	Turkish	2

MBA (Pharmaceuticals and Health Management)

Program Title : MBA (Pharmaceuticals and Health Management)

Duration : 2 Years Total

Eligibility Criteria: 16 years of education (Business / Non Business) with minimum CGPA of 2.0/4 (Semester System) or 50% marks (Annual System).

Roadmap of MBA (P&HM)

Semester 1

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		BCM 701	Business Communication	3
2		ACC 702	Financial Accounting	3
3		SCM 767	Supply Chain Management	3
4		MKT 741	Principles of Marketing	3
5		MGT 731	Theories and Practices of Management	3
6		ISL 203	*Fehm-e-Quran – I	1

Semester 2

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		QTM 720	Bio Statistics	3
2	ACC 702	FIN 701	Financial Management	3
3	MGT 731	MGT 732	Human Resource Management	3
4		RMT 701	Methods In Business Research	3
5		MGT 744	Project Management	3
6		ISL 204	*Fehm-e-Quran – II	1

***For non-Muslim:** Any University approved 02 (or more) credit hours of Interdisciplinary Course

Semester 3

Sr. No.	Pre requisite Courses	Course Code	Course Title	Credit Hours
1		MGT 745	Corporate Leadership and Social Responsibilities	3
2		PBM 730	MIS in Health Care Management	3
3		HBM 715	Principles of Health Care Management	3
4	MGT 731	MGT 733	Strategic Management	3
5			Elective I	3

Semester 4

Sr. No.	Pre requisite Courses	Course Code	Course Title	Credit Hours
1		PBM 735	Pharmaceutical Business Development & Global Business Environment	3
2		PBM 726	Regulatory Affairs & Health Care Ethics	3
3		THS 799	Project / Thesis	3
4			Elective II	3
5			Elective III	3

ELECTIVES

Course Codes	Course Title	Credit Hours
PBM 701	Pharmaceutical Brand Management and E-Marketing Marketing	3
PBM 702	Pharmaceutical sales Management	3
PBM 703	Pharmaceutical Marketing and Quality Assurance	3
PBM 704	Economics and Management of Pharmaceutical Industry	3
PBM 705	Pharmaceutical Product Management	3
PBM 706	Financial Applications in Pharmaceutical Marketing	3
PBM 707	Pharmaceutical Business Strategy	3
PBM 708	Marketing of Bio-Technology Products	3
PBM 709	Consumerism and Public Health	3
PBM 710	Basics of Medical Affairs	3
PBM 712	Health Management	3
PBM 713	Financial services of Health Services	3
PBM 714	Strategic Management of Health Services	3
PBM 715	Concepts of Primary Health Care	3
PBM 716	Managing Professional Health Care	3
PBM 717	Marketing Health Care Services	3

Course Code	Course	Cr Hr
MTM 101	Introduction to Maritime Industry	3
MTM 230	Introduction to Maritime Law and International Maritime Convention	3
MTM202	Economics of Sea Transport & International Trade	3
MTM 222	Introduction to Coastal Zone Management	3
MTM 304	Port Operations and Management	3
MTM 306	Shipping Operations and Management	3
MTM 322	Fisheries Resources & Management	3
MTM 401	Coastal Eco-Tourism Development and Management	3
MTM 403	Maritime Innovation & Entrepreneurship	3
MTM 501	Maritime Business: China Pakistan Perspective under CPEC	3
MTM 521	Maritime Business and HRM	
MTM 504	Maritime Management: Concept and Applications	3
MTM 505	Contemporary Issues of Maritime Management	3
MTM 506	Maritime Management in Pakistan: Past, Present and Future	3
HRM 508	Marine Environments and Administration	3
ECO-363	Introduction to Blue and Green Economy	3

ASSOCIATE DEGREE PROGRAM (CS)

Program Title: Associate Degree Program (CS)

Duration: 2 Years

Eligibility Criteria: 50% Marks in HSSC or equivalent.

Campus: BUIC (H-11), BUKC & BULC

Semester Wise Roadmap

Semester 1

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	None	GSC 114	Applied Physics	2
2.	None	GSL 113	Applied Physics Lab	1
3.	None	CSC 114	Introduction to Information & Communication Technology	2
4.	None	CSL 114	Introduction to Information & Communication Technology Lab	1
5.	None	CSC 113	Computer Programming	3
6.	None	CSL 113	Computer Programming Lab	1
7.	None	GSC 221	Discrete Mathematics	3
8.	None	ISL 101	Islamic Studies/Ethics	2
9.	None	CSC 308	Professional Practices & Ethics	2
10.	None	ISL 107	Tajweed	0
Total Credit Hours				17

Semester 2

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	None	GSC 122	Probability and Statistics	3
2.	CSC 113	CSC 210	Object Oriented Programming	3
3.	CSC 113	CSL 210	Object Oriented Programming Lab	1

4.	GSC 114	CEN 122	Digital Design	2
5.	GSC 114	CEL 122	Digital Design Lab	1
6.	None	GSC 110	Applied Calculus and Analytical Geometry	3
7.	None	ENG 101	Functional English	3
8.	None	PAK 105	Pakistan Studies	2
9.		ISL 108	Understanding Quran-I	0
Total Credit Hours				18

Semester 3

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	None	HSS 219	Civic and Community Engagement	2
2.	None	GSC 121	Linear Algebra	3
3.	GSC 110	GSC 211	Multivariable Calculus	3
4.	None	CEN 223	Computer Communication & Networks	3
5.	None	CEL 223	Computer Communication & Networks Lab	1
6.	CSC 113	CSC 221	Data Structure & Algorithm	3
7.	CSC 113	CSL 221	Data Structure & Algorithm Lab	1
8.	None	ENG 134	Communication Skills	2
9.		ISL 109	Understanding Quran-II	0
Total Credit Hours				18

Semester 4

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	None	-	Social Sciences Elective	3
2.	CEN 122	CEN 323	Computer Organization and Assembly Language	2
3.	CEN 122	CEL 323	Computer Organization & Assembly Language Lab	1
4.	None	ENG 123	Expository Writing	3
5.	None	CSC 220	Database Management Systems	3
6.	None	CSL 220	Database Management Systems Lab	1

7.	None	HSS 423	Entrepreneurship	2
8.	None	PAK 109	Ideology & Constitution of Pakistan	2
9.		ISL 110	Understanding Quran – III	0
Total Credit Hours				17

BS (Computer Science)

Program Title: BS Computer Science

Duration: 4 Years

Eligibility Criteria: Minimum 50% marks in Intermediate (HSSC) examination (*Pre-Medical/Pre-Engg.) or equivalent qualification with Mathematics certified by IBCC. *Pre-Medical students are required to pass 02 deficiency courses of mathematics during the first year of degree program. Students with Pre-medical background must furnish an undertaking that they must pass deficiency courses of Mathematics of 6 credit hours within one year of their regular studies. Failure to do so will result in cancellation of admission without any fee refund.

Programme Educational Objectives (PEOs)

PEO 1: Apply computing knowledge and skills to design and develop effective solutions for complex real-life problems.

PEO 2: Demonstrate ethical and moral conduct in professional practices.

PEO 3: Manifest life-long learning and inter-personal skills for sustainable career development and professional growth.

Programme Learning Outcomes (PLOs)

PLO1 Academic Education: To prepare graduates as computing professionals.

PLO2 Knowledge for Solving Computing Problems: Apply knowledge of computing fundamentals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appropriate for the computing specialization to the 16 abstraction and conceptualization of computing models from defined problems and requirements.

PLO3 Problem Analysis: Identify, formulate, research literature, and solve complex computing problems reaching substantiated conclusions using fundamental principles of mathematics, computing sciences, and relevant domain disciplines.

PLO4 Design/ Development of Solutions: Design and evaluate solutions for complex computing problems, and design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

PLO5 Modern Tool Usage: Create, select, adapt and apply appropriate techniques, resources, and modern computing tools to complex computing activities, with an understanding of the limitations.

PLO6 Individual and Teamwork: Function effectively as an individual and as a member or leader in diverse teams and in multi-disciplinary settings.

PLO7 Communication: Communicate effectively with the computing community and with society at large about complex computing activities by being able to comprehend and write effective

reports, design documentation, make effective presentations, and give and understand clear instructions.

PLO8 Computing Professionalism and Society: Understand and assess societal, health, safety, legal, and cultural issues within local and global contexts, and the consequential responsibilities relevant to professional computing practice.

PLO9 Ethics: Understand and commit to professional ethics, responsibilities, and norms of professional computing practice.

PLO10 Life-long Learning: Recognize the need, and have the ability, to engage in independent learning for continual development as a computing professional.

Semester-wise Roadmap of BS-CS

Semester 1

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	None	GSC 114	Applied Physics	2
2.	None	GSL 113	Applied Physics Lab	1
3.	None	CSC 114	Introduction to Information & Communication Technology	2
4.	None	CSL 114	Introduction to Information & Communication Technology Lab	1
5.	None	CSC 113	Computer Programming	3
6.	None	CSL 113	Computer Programming Lab	1
7.	None	GSC 221	Discrete Mathematics	3
8.	None	ISL 101 / HSS 116	*Islamic Studies / Ethics	2
9.	None	CSC 308	Professional Practices & Ethics	2
10.	None	ISL 107	**Tajweed	0
Total Credit Hours				17

Semester 2

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	None	GSC 122	Probability and Statistics	3
2.	CSC 113	CSC 210	Object Oriented Programming	3
3.	CSC 113	CSL 210	Object Oriented Programming Lab	1
4.	GSC 114	CEN 122	Digital Design	2
5.	GSC 114	CEL 122	Digital Design Lab	1
6.	None	GSC 110	Applied Calculus and Analytical Geometry	3

7.	None	ENG 101	Functional English	3
8.	None	PAK 103	Pakistan Studies & Global Perspective	2
Total Credit Hours				18

Semester 3

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	None	HSS 219	Civic and Community Engagement	2
2.	None	GSC 121	Linear Algebra	3
3.	None	HSS 423	Entrepreneurship	2
4.	None	CEN 223	Computer Communication & Networks	3
5.	None	CEL 223	Computer Communication & Networks Lab	1
6.	CSC 113	CSC 221	Data Structure & Algorithm	3
7.	CSC 113	CSL 221	Data Structure & Algorithm Lab	1
8.	None	ENG 134	Communication Skills	2
9.	None	ISL 203	*Fehmul Quran– I	0+1
Total Credit Hours				18

*3 contact hour Fehm-e-Quran-I for Muslims only.

Semester 4

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	None	-	Social Sciences Elective	2
2.	CEN 122	CEN 323	Computer Organization and Assembly Language	2
3.	CEN 122	CEL 323	Computer Organization & Assembly Language Lab	1
4.	None	ENG 123	Expository Writing	3
5.	None	CSC 220	Database Management Systems	3
6.	None	CSL 220	Database Management Systems Lab	1
7.	GSC 110	GSC 211	Multivariable Calculus	3
8.	None	PAK 109	Ideology & Constitution of Pakistan	2
9.	None	ISL 204	*Fehmul QuranII	0+1
Total Credit Hours				18

* Non-Muslim students shall undertake any University-approved 02 (or more) credit hours Interdisciplinary Course in lieu of Fehmul QuranI & II.

Semester 5

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	CSC 221	CSC 320	Operating Systems	3
2.	CSC 221	CSL 320	Operating Systems Lab	1
3.	None	SEN 220	Software Engineering	3
4.	CSC 221	CSC 321	Design and Analysis of Algorithms	3
5.	CEN 323	CSC 327	Computer Architecture	2
6.	CEN 323	CSL 327	Computer Architecture Lab	1
7.	None	AIC 201	Artificial Intelligence	3
8.	None	AIL 201	Artificial Intelligence Lab	1
Total Credit Hours				17

Semester 6

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	CSC 220	CSC 470	Advance Databases	2
2.	CSL 220	CSL 470	Advance Databases Lab	1
3.			Elective 1 (2+1)	2 + 1
4.			Elective 2 (2+1)	2 + 1
5.			Elective 3 (3+0 or 2+1)	3
6.	SEN 220	SEN 321	Human Computer Interaction	2
7.	SEN 220	SEN 320	Human Computer Interaction Lab	1
8.	None	CSC 315	Theory of Automata	3
Total Credit Hours				18

Semester 7

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	None	FYP 400	Final Year Project - I	3
2.	CSC 315	CSC 323	Compiler Construction	2
3.	CSC 315	CSL 323	Compiler Construction Lab	1
4.			Elective Supporting Course	3
5.			Elective 4 (2+1)	2 + 1
6.			Elective 5 (2+1)	2 + 1
7.	None	ISL 113	*Seerah-I	0
Total Credit Hours				15

Semester 8

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	None	FYP 400	Final Year Project - II	3
2.	None	CSC 407	Information Security	3
3.	CSC 320	AIC 302	Parallel & Distributed Computing	2
4.	CSC 320	AIL 302	Parallel & Distributed Computing Lab	1
5.			Elective 6 (2+1)	2 + 1
6.			Elective 7 (3+0 or 2+1)	3
7.	None	ISL 114	*Seerah –II	0
Total Credit Hours				15

List of Elective Courses (21 credit hours)

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	CSC 321	CSC 521	Advanced Design and Analysis of Algorithm	3
2.	CEN 223	CEN 451	Data Encryption and Security	3
3.	CSC 220	CSC 452	Data Mining	3
4.	CSC 220	CSC 454	Data Warehousing	3
5.	CSC 220	CSC 490	Introduction to Cloud Computing	3
6.	CSC 325	SEN 455	Knowledge Based Management System	3
7.	SEN 220	CSC 458	Management Information System	3
8.	CSC 325	AIC 442	Natural Language Processing	2
9.	CSC 325	AIL 442	Natural Language Processing Lab	1
10.	CSC 325	CSC 449	Neural Networks & Fuzzy Logic	3
11.	CSC 113	SEN 422	Semantic Computing	3
12.	SEN 220	SEN 458	Software Requirement Engineering	3
13.	CSC 323	CSC 451	Theory of Programming Languages	3
14.	SEN 220	SEN 456	Usability Engineering	3
15.	CEN 223	CSC 489	Ubiquitous Computing	3
16.	SEN 220	SEN 410	Software Project Management	3
17.	SEN 220	SEN 420	Software Quality Assurance	3
18.	SEN 220	SEN 447	Software Testing	3
19.	CEN 223	ITC 411	Cyber Security	3
20.	CSC 325	AIC 304	Computer Vision	2

21.	CSC 325	AIL 304	Computer Vision Lab	1
22.	CSC 221	CSC 404	Blockchain Technologies	3
23.	CSC 325	CSC 448	Introduction to Bioinformatics	3
24.	CEN 223	CEN 449	Internet of Things	3
25.	CSC 220	CSC 488	Big Data Analytics	2
26.	CSC 220	CSL 488	Big Data Analytics Lab	1
27.	CSC 210	CSC 444	Computer Graphics	2
28.	CSC 210	CSL 444	Computer Graphics Lab	1
29.	None	CSC 484	Content Management	2
30.	None	CSL 484	Content Management Lab	1
31.	CSC 210	CEN 444	Digital Image Processing	2
32.	CSC 210	CEL 444	Digital Image Processing Lab	1
33.	CSC 210	CSC 319	Game Development and Design	2
34.	CSC 210	CSL 319	Game Development and Design Lab	1
35.	CSC 325	CSC 466	Introduction to Biometrics	2
36.	CSC 325	CSL 466	Introduction to Biometrics Lab	1
37.	CSC 220	CSC 487	Introduction to Data Science	2
38.	CSC 220	CSL 487	Introduction to Data Science Lab	1
39.	CSC 210	CSC 341	Mobile Application Development	2
40.	CSC 210	CSL 341	Mobile Application Development Lab	1
41.	None	SEN 493	Multimedia Systems	2
42.	None	SEL 493	Multimedia Systems Lab	1
43.	CSC 325	CEN 458	Robotics	2
44.	CSC 325	CEL 458	Robotics Lab	1
45.	CSC 210	SEN 448	Software Application for Mobile Device	2
46.	CSC 210	SEL 448	Software Application for Mobile Device Lab	1
47.	SEN 220	SEN 457	Software Design and Architecture	2
48.	SEN 220	SEL 457	Software Design and Architecture Lab	1
49.	CSC 210	CSC 313	Visual Programming	2
50.	CSC 210	CSL 313	Visual Programming Lab	1
51.	CSC 113	SEN 310	Web Engineering	2
52.	CSC 113	SEL 310	Web Engineering Lab	1
53.	CSC 325	AIC 301	Machine Learning	2
54.	CSC 325	AIL 301	Machine Learning Lab	1

55.	CSC 325	AIC 401	Deep Learning	2
56.	CSC 325	AIL 401	Deep Learning Lab	1
57.	None	CSC 400	Quantum Computing	2
58.	None	CSL 400	Quantum Computing Lab	1

List of Social Sciences Courses

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	None	PSY 107	Introduction to Psychology	2
2.	None	HSS 121	Introduction to Media Studies	2
3.	None	SOC 112	Critical Reasoning & Logic	2
4.	None	HSS 109	Arabic	2
5.	None	HSS 163	Chinese	2
6.	None	HSS 160	French	2
7.	None	HSS 164	German	2
8.	None	HSS 161	Russian	2
9.	None	HSS 162	Spanish	2
10.	None	HSS 214	Turkish	2

List of Elective Supporting Courses (3 credit hours)

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	None	MKT 110	Principles of Marketing	3
2.	None	FIN 201	Fundamentals of Finance	3
3.	None	MGT 111	Principles of Management	3
4.	None	MGT 242	Organizational Theory and Behavior	3
5.	None	MTM 101	Introduction to Maritime Industry	3
6.	None	MTM 501	Fundamentals of Maritime Sector	3

BS (Information Technology)

Program Title: BS Information Technology

Duration: 4 Years

Eligibility Criteria: Minimum 50% marks in Intermediate (HSSC) examination (*Pre-Medical/Pre-Engg.) or equivalent qualification with Mathematics certified by IBCC. *Pre-Medical students are required to pass 02 deficiency courses of mathematics during the first year of degree program. Students with Pre-medical background must furnish an undertaking that they must pass deficiency courses of Mathematics of 6 credit hours within one year of their regular studies. Failure to do so will result in cancellation of admission without any fee refund.

Mission of the BS Computer Science Programme

To produce graduates having good problem-solving skills and knowledge to use computers creatively and effectively along with team building and professional skills

PEO 1: Apply principle and practices of information technology and computing knowledge to solve challenging problems in relevant profession

PEO 2: Demonstrate the ability to use modern tools learnt during degree Programme to design and develop effective solutions

PEO 3: Exhibit managerial capabilities with ethical and moral values Programme Educational Objectives (PEOs)

PLO1 Academic Education: To prepare graduates as computing professionals.

PLO2 Knowledge for Solving Computing Problems: Apply knowledge of computing fundamentals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appropriate for the computing specialization to the 16 abstraction and conceptualization of computing models from defined problems and requirements.

PLO3 Problem Analysis: Identify, formulate, research literature, and solve complex computing problems reaching substantiated conclusions using fundamental principles of mathematics, computing sciences, and relevant domain disciplines.

PLO4 Design/ Development of Solutions: Design and evaluate solutions for complex computing problems, and design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

PLO5 Modern Tool Usage: Create, select, adapt and apply appropriate techniques, resources, and modern computing tools to complex computing activities, with an understanding of the limitations.

PLO6 Individual and Teamwork: Function effectively as an individual and as a member or leader in diverse teams and in multi-disciplinary settings.

PLO7 Communication: Communicate effectively with the computing community and with society at large about complex computing activities by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions.

PLO8 Computing Professionalism and Society: Understand and assess societal, health, safety, legal, and cultural issues within local and global contexts, and the consequential responsibilities relevant to professional computing practice.

PLO9 Ethics: Understand and commit to professional ethics, responsibilities, and norms of professional computing practice.

PLO10 Life-long Learning: Recognize the need, and have the ability, to engage in independent learning for continual development as a computing professional.

Semester-wise Roadmap of BS-IT

Semester 1

Sr. No.	Pre- requisite Course Code	Course Code	Course Title	Credit Hours
1	None	CSC 114	Introduction to Information & Communication Technology	2
2	None	CSL 114	Introduction to Information & Communication Technology Lab	1
3	None	CSC 113	Computer Programming	3
4	None	CSL 113	Computer Programming Lab	1
5	None	GSC 114	Applied Physics	2
6	None	GSL 113	Applied Physics Lab	1
7	None	ISL 101/ HSS 116	*Islamic Studies /** Ethics	2
8	None	GSC 221	Discrete Mathematics	3
9	None	CSC 308	Professional Practices and Ethics	2
10	None	ISL 107	**Tajweed	0
Total Credit Hours				17
*Compulsory course for Muslims, non-Muslim students to study Ethics course **non-credited course for Muslim students				

Semester 2

Sr. No.	Pre- requisite Course Code	Course Code	Course Title	Credit Hours
1	CSC 113	CSC 210	Object Oriented Programming	3
2	CSC 113	CSL 210	Object Oriented Programming Lab	1
3	GSC 114	CEN 122	Digital Design	2
4	GSC 114	CEL 122	Digital Design Lab	1

5	None	GSC 110	Applied Calculus and Analytical Geometry	3
6	None	GSC 122	Probability and Statistics	3
7	None	PAK 103	Pakistan Studies and Global Perspective	2
8	None	ENG 101	Functional English	3
Total Credit Hours				18

Semester 3

Sr. No.	Pre- requisite Course Code	Course Code	Course Title	Credit Hours
1	CSC 113	CSC 221	Data Structure & Algorithm	3
2	CSC 113	CSL 221	Data Structure & Algorithm Lab	1
3	None	SEN 220	Software Engineering	3
4	None	CEN 223	Computer Communication & Networks	3
5	None	CEL 223	Computer Communication & Networks Lab	1
6	None	GSC 121	Linear Algebra	3
7	None	HSS 219	Civic and Community Engagement	2
8	None	ENG 134	Communication Skills	2
9		ISL 203	Fehmul Quran– I*	0+1
Total Credit Hours				19
*3 contact hour Fehm-e-Quran-I for Muslims only.				

Semester 4

Sr. No.	Pre- requisite Course Code	Course Code	Course Title	Credit Hours
1	CSC 210	ITC 226	Web Systems and Technologies	2
2	CSC 210	ITL 226	Web Systems and Technologies Lab	1
3	CSC 221	CSC 321	Design and Analysis of Algorithms	3
4	None	HSS 423	Entrepreneurship	2
5	HSS 118	ENG 123	Expository Writing	3
6	GSC 110	GSC 211	Multivariable Calculus	3
7	None		Social Sciences Elective	2
8	None	PAK 109	Ideology & Constitution of Pakistan)	2
9	None	ISL 204	*Fehmul Quran– II	0+1
				19

Semester 5

Sr. No.	Pre- requisite Course Code	Course Code	Course Title	Credit Hours
1	None	CSC 220	Database Management System	3
2	None	CSL 220	Database Management System Lab	1
3	CSC 221	CSC 320	Operating Systems	3

4	CSC 221	CSL 320	Operating Systems Lab	1
5	CEN 223	ITC 312	System and Network Administration	3
6	CEN 223	ITL 312	System and Network Administration Lab	1
7			Elective 1 (3+0 or 2+1)	3
8	CEN 223	CSC 407	Information Security	3
Total Credit Hours				18

Semester 6

Sr. No.	Pre- requisite Course Code	Course Code	Course Title	Credit Hours
1	CEN 122	CEN 323	Computer Organization and Assembly Language	2
2	CEN 122	CEL 323	Computer Organization and Assembly Language Lab	1
3	CSC 210	CSC 411	Artificial Intelligence	2
4	CSC 210	AIL 201	Artificial Intelligence Lab	1
5	ITC 312	ITC 324	Information Technology Infrastructure	3
6			Elective 2 (2+1)	3
7			Elective 3 (2+1)	3
Total Credit Hours				15

Semester 7

Sr. No.	Pre- requisite Course Code	Course Code	Course Title	Credit Hours
1	CSC 220	ITC 327	Database Administration and Management	2
2	CSC 220	ITL 327	Database Administration and Management Lab	1
3	None	FYP 400	Final Year Project	3
4	CEN 223	ITC 411	Cyber Security	3
5			Elective 4 (2+1)	3
6			Elective 5 (3+0 or 2+1)	3
7	None	ISL 113	*Seerah-I	0
Total Credit Hours				14
*Non-credited course for Muslim students only.				

Semester 8

Sr. No.	Pre- requisite Course Code	Course Code	Course Title	Credit Hours
1	None	FYP 400	Final Year Project	3
2	CSC320	AIC 302	Parallel and Distributed Computing	2
3	CSC320	AIL 302	Parallel and Distributed Computing Lab	1
4			Elective Supporting	3

5			Elective 6 (3+0 or 2+1)	3
6			Elective 7 (3+0 or 2+1)	3
7	ISL 113	ISL 114	*Seerah-II	0
Total Credit Hours				16
*Non-credited course for Muslim students only.				

List of Domain Elective Courses

Sr. No.	Pre- requisite Course Code	Course Code	Course Title	Credit Hours
1	ITC 226	ITB 471	E Commerce	3
2	None	ITC 425	Business Processing Re- engineering	3
3	None	ITC 457	Knowledge Management System & Technologies	3
4	CSC 220	CSC 452	Data Mining	3
5	CSC 220	CSC 454	Data Warehousing	3
6	ITC 226	SEN 421	Semantic Web	3
7	SEN 220	SEN 411	Software Testing	3
8	SEN 220	SEN 456	Usability Engineering	3
9	CSC 220	CSC 426	Business Intelligence and Analytic	3
10	None	SEN 427	Information Systems Auditing and Assurance	3
11	SEN 220	SEN 428	Service Oriented Architecture	3
12	SEN 220	SEN 420	Software Quality Assurance	3
13	CEN 223	EET 455	Wireless Communication	3
14	None	SEN 320	Human Computer Interaction	3
15	CSC 221	SEN 604	Blockchain Technologies	3
16	CSC 221	CSC 448	Introduction to Bioinformatics	3
17	CEN 223	CSC 450	Internet of Things	3
18	CEN 223	SEN 459	Software Defined Network	3
19	SEN 220	CSC 489	Ubiquitous Computing	3
20	GSC 221	GSC 445	Operation Research	3
21	None	CSC 458	Management Information System	3
22	SEN 220	SEN 410	Software Project Management	3
23	CSC 210	CSC 313	Visual Programming	2
24	CSC 210	CSL 313	Visual Programming Lab	1
25	CSC 220	CSC 487	Introduction to Data Science	2
26	CSC 220	CSL 487	Introduction to Data Science Lab	1
27	CSC 210	CEN 444	Digital Image Processing	2
28	CSC 210	CEL 444	Digital Image Processing Lab	1
29	CSC 210	CSC 444	Computer Graphics	2
30	CSC 210	CSL 444	Computer Graphics Lab	1
31	CSC 220	CSC 468	Advanced Databases	2
32	CSC 220	CSL 468	Advanced Databases Lab	1

33	CSC 210	CSC 341	Mobile Application Development	2
34	CSC 210	CSL 341	Mobile Application Development Lab	1
35	None	SEN 493	Multimedia Systems	2
36	None	SEL 493	Multimedia Systems Lab	1
37	SEN 220	SEN 457	Software Design and Architecture	2
38	SEN 220	SEL 457	Software Design and Architecture Lab	1
39	CSC 113	SEN 310	Web Engineering	2
40	CSC 113	SEL 310	Web Engineering Lab	1
41	CSC 220	CSC 488	Big Data Analytics	2
42	CSC 220	CSL 488	Big Data Analytics Lab	1
43	None	CSC 484	Content Management	2
44	None	CSL 484	Content Management Lab	1
45	CSC 411	CSC 413	Introduction to Machine Learning	2
46	CSC 411	CSL 413	Introduction to Machine Learning Lab	1

List of Social Sciences Courses

Sr. No.	Pre- requisite Course Code	Course Code	Course Title	Credit Hours
1	None	HSS 107	Introduction to Psychology	3
2	None	HSS 115	Introduction to Media studies	3
3	None	SOC 112	Critical Reasoning and Logic	2
4	None	HSS 109	Arabic	2
5	None	HSS 163	Chinese	2
6	None	HSS 160	French	2
7	None	HSS 164	German	2
8	None	HSS 161	Russian	2
9	None	HSS 162	Spanish	2
10	None	HSS 214	Turkish	2

List of Elective Supporting Courses

Sr. No.	Pre- requisite Course Code	Course Code	Course Title	Credit Hours
1	None	MKT 110	Principles of Marketing	3
2	None	FIN 201	Fundamentals of Finance	3
3	None	MGT 111	Principles of Management	3
4	None	MGT 242	Organizational Theory and Behavior	3
5	None	MTM 101	Introduction to Maritime Industry	3
6	None	MTM 501	Fundamentals of Maritime Sector	3

BS Artificial Intelligence

Program Title: BS Artificial Intelligence

Duration: 4 Years

Eligibility Criteria: Minimum 50% marks in Intermediate (HSSC) examination (*Pre-Medical/Pre-Engg.) or equivalent qualification with Mathematics certified by IBCC. *Pre-Medical students are required to pass 02 deficiency courses of mathematics during the first year of degree program. Students with Pre-medical background must furnish an undertaking that they must pass deficiency courses of Mathematics of 6 credit hours within one year of their regular studies. Failure to do so will result in cancellation of admission without any fee refund.

Semester-wise Revised Roadmap of BSAI

Semester 1

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	None	GSC 114	Applied Physics	2
2.	None	GSL 113	Applied Physics Lab	1
3.	None	CSC 114	Introduction to Information & Communication Technology	2
4.	None	CSL 114	Introduction to Information & Communication Technology Lab	1
5.	None	CSC 113	Computer Programming	3
6.	None	CSL 113	Computer Programming Lab	1
7.	None	GSC 221	Discrete Mathematics	3
8.	None	ISL 101	*Islamic Studies	2
9.	None	CSC 308	Professional Practices and Ethics	2
10.	None	ISL 107	**Tajweed	0
Total Credit Hours				17

Semester 2

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	None	CEN 122	Digital Design	2
2.	None	CEL 122	Digital Design Lab	1
3.	CSC 113	CSC 210	Object Oriented Programming	3
4.	CSC 113	CSL 210	Object Oriented Programming Lab	1
5.	None	GSC 221	Probability and Statistics	3
6.	None	GSC 110	Applied Calculus and Analytical Geometry	3
7.	None	ENG 101	Functional English	3
8.	None	PAK 103	Pakistan Studies & Global Perspective	2
Total Credit Hours				18

Semester 3

S. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	CEN 122	CEN 323	Computer Organization& Assembly Language	2
2.	CEN 122	CEL 323	Computer Organization& Assembly Language Lab	1
3.	CSC 113	CSC 221	Data Structures and Algorithms	3
4.	CSC 113	CSL 221	Data Structures and Algorithms Lab	1
5.	CSC 113	AIC 202	Programming for Artificial Intelligence	2
6.	CSC 113	AIL 202	Programming for Artificial Intelligence Lab	1
7.	None	GSC 221	Linear Algebra	3
8.	None	ENG134	Communication Skills	2
9.	None	HSS 219	Civic and Community Engagement	2
10.		ISL 203	*Fehmul Quran– I	0+1
Total Credit Hours				18

Semester 4

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	None	CEN 222	Data Communication and Networking	3
2.	None	CEL 222	Data Communication and Networking Lab	1
3.	CSC 210	AIC 201	Artificial Intelligence	3
4.	CSC 210	AIC 201	Artificial Intelligence Lab	1
5.	None	CSC 220	Database Management Systems	3
6.	None	CSL 220	Database Management Systems Lab	1
7.	None	HSS 423	Entrepreneurship	2
8.	None	-	Social Sciences Elective	2
9.	None		Ideology and Constitution of Pakistan	2
10.	None	ISL 204	*Fehmul Quran– II	0+1
Total Credit Hours				19

Semester 5

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	AIC 201	AIC 203	Knowledge Representation & Reasoning	3
2.	AIC 201	AIC 301	Machine Learning	2
3.	AIC 201	AIL 301	Machine Learning Lab	1
4.	GSC 110	GSC 211	Multivariable Calculus	3
5.	CSC 221	CSC 321	Design and Analysis of Algorithms	3
6.			Domain Elective 1	(2+1)
7.			Domain Elective 2	(3+0 or 2+1)
Total Credit Hours				18

Semester 6

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	AIC 301	AIC 401	Deep Learning	2
2.	AIC 301	AIL 401	Deep Learning Lab	1
3.	CSC 221	CSC 320	Operating Systems	3
4.	CSC 221	CSL 320	Operating Systems Lab	1
5.	CSC 320	AIC 302	Parallel & Distributed Computing	2
6.	CSC 320	AIL 302	Parallel & Distributed Computing Lab	1
7.			Domain Elective 3	(2+1)
8.			Domain Elective 4	(3+0 or 2+1)
Total Credit Hours				16

Semester 7

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	None	FYP 400	Final Year Project – I	3
2.	None	SEN 220	Software Engineering	3
3.	None	AIC 304	Computer Vision	2
4.	None	AIL 304	Computer Vision Lab	1
5.	HSS 120	ENG 123	Expository Writing	3
6.			Elective 5	(2+1)
7.		ISL 113	*Seerah-I	0
Total Credit Hours				15

Semester 8

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	None	FYP 400	Final Year Project	3
2.	CEN 222	CSC 407	Information Security	3
3.			Elective Supporting	3
4.			Domain Elective 6	(2+1)
5.			Domain Elective 7	(3+0 or 2+1)
6.		ISL 114	*Seerah-II	0
Total Credit Hours				15

List of Elective Courses				
S. No	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	GSC 122	AIC 305	Advance Statistics	3
2.	None	CSC 315	Theory of Automata	3
3.	None	CSC 452	Data Mining	3
4.	None	AIC 306	Speech Processing	3
5.	None	AIC 402	Reinforcement Learning	3
6.	None	AIC 403	Fuzzy Systems	2
7.	None	GSC 221	Evolutionary Computing	3
8.	None	AIC 308	Agent-Based Modeling	3
9.	None	CEN 459	Robotics	2+1
10.	None	ITC 412	Introduction to Cyber Security	2+1
11.	None	AIC 442	Natural Language Processing	2+1
12.	None	AIC 410	Virtual and Augmented Reality	2+1
13.	None	AIC 411	HCI & Computer Graphics	2+1
14.	None	AIC 310	Swarm Intelligence	2+1
15.	None	CSC 400	Quantum Computing	2+1
16.	None	AIC 377	Game Artificial Intelligence	2+1

List of Social Sciences Courses				
Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	None	HSS 107	Introduction to Psychology	2
2.	None	HSS 115	Introduction to Media Studies	2
3.	None	SOC 112	Critical Reasoning & Logic	2
4.	None	HSS 109	Arabic	2
5.	None	HSS 163	Chinese	2
6.	None	HSS 160	French	2
7.	None	HSS 164	German	2
8.	None	HSS 161	Russian	2
9.	None	HSS 162	Spanish	2
10.	None	HSS 214	Turkish	2
List of Elective Supporting Courses				
Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1.	None	MKT 110	Principles of Marketing	3
2.	None	FIN 201	Fundamentals of Finance	3
3.	None	MGT 111	Principles of Management	3
4.	None	MGT 242	Organizational Theory and Behavior	3
5.	Non	MTM 101	Introduction to Maritime Industry	3
6.	None	MTM 501	Fundamentals of Maritime Sector	3

MS Artificial Intelligence Program

Program Title: Master of Science in Artificial Intelligence

Duration: 2 Years

Eligibility Criteria: 30 HEC recognized 4 years Bachelor degree in AI/ CS/ IT/ EE/ CE/ SE/ Robotics/ Mechatronics or equivalent with CGPA 2.0/4.0 (Semester System) or 50% marks (Annual System). NTS-GAT (General)/ GRE/University entry test passed with 50% marks.

The following courses are recommended to be completed before entering the MS Artificial Intelligence (AI) program.

- a. Programming Fundamentals OR Computer Programming
- b. Data Structures & Algorithms OR Design & Analysis of Algorithms
- c. Database Systems

Semester wise Roadmap

Semester 1

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
		CSC 711	Advanced Artificial Intelligence	03
		DSC 708	Statistical and Mathematical Methods for Data Analysis	03
		ESC 701	Research Methodology	03

Semester 2

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
		CSC 719	Machine Learning	03
		AIC 703	Advanced Knowledge Representation and Reasoning	03
			Elective-I	03

Semester 3

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
		DSC 707	Deep Learning	03
			Elective-II	03
		THS 799/ Elec-Code	Thesis-I / Elective-III	03

Semester 4

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
		THS 799/ Elec-Code	Thesis-II / Elective-IV	03

List of Elective Courses

Course Code	Course Title	Credit Hours
CSC 721	Decision Support Systems	3
CSC 715	Intelligent Agents	3
CSC 741	Advanced Natural Language Processing	3

CEN 745	Advanced Digital Image Processing	3
CSC 751	Pattern Recognition	3
CSC 722	Advanced Information Theory	3
SEN 764	Ontology Engineering	3
THS 799	Thesis	6
CSC 723	Game Theory	3
AIC 704	Optimization Techniques	3
AIC 705	Artificial Intelligence in Embedded systems	3
AIC 706	AI for Healthcare Applications	3
AIC 707	Ethics of Artificial Intelligence	3

MS Computer Science

Program Title: MS Computer Science

Duration: 2 Years

Eligibility Criteria: HEC recognized 4 years Bachelor degree in Computer Sciences/Software Engineering/Computer Engineering/ Information Technology or equivalent with CGPA 2.0/4.0 (Semester System) or 50% marks (Annual System) or MIT/MCS/M.Sc (Computer Science) or equivalent with CGPA 2.0/4.0 (Semester System) or 50% marks (Annual System). NTS GAT (General)/GRE/University entry test passed with 50% Marks.

Program Mission

The mission of the MSCS program is to produce Computer Science graduates who are able to apply their theoretical knowledge and analytical skills to create effective and novel solutions to practical and research oriented computing problems.

Education Objectives

The key objectives of the MSCS program include the following.

1. To provide an in depth understanding of the theory and concepts of the core Computer Science areas.
2. To prepare students for graduate level training in specialized areas of Computer Science.
3. To enable learning of the latest Computing tools and technologies.
4. To enable students to apply their knowledge and analytical skills to create effective and novel solutions to various computing problems.
5. To develop effective oral and written communication skills for working independently and in groups.

Program Learning Outcomes

Students graduating from the MS (CS) program are expected to:

1. Ability to apply Mathematical foundations, computational theory and algorithmic principles to solve practical as well as research-oriented computing problems.
2. Ability to turn complex programming specifications into well designed and well tested computer programs.
3. Acquaintance with the latest computing tools and technologies.
4. To develop effective oral and written communication skills.
5. Ability to pursue continuous professional development.
6. Ability to work on practical and research-based problems collaboratively as well as independently.

Road Map

Course Code	Course Title	CH
Semester 1		
CSC 703	Advanced Theory of Computation	3

CSC 721	Advanced Design and Analysis of Algorithms	3
ESC 701	Research Methodology (University Requirement)	3
Semester 2		
CSC 720	Advanced Operating Systems	3
CEN 720	Advanced Computer Architecture	3
	Elective I	3
Semester 3		
	Elective II	3
	Elective III	3
THS 799	Thesis I / Elective IV	3
Semester 4		
THS 799	Thesis II / Elective V	3

ELECTIVE COURSES – MSCS Program

Course Codes	Course Names	CH
CSC 706	Advanced Ubiquitous Computing	3
CSC 705	Intelligent User Interface Design and Evaluation	3
CSC 717	Virtual Reality Technologies	3
CSC 716	Game Theory	3
CSC 701	Computer Supported Cooperative Work	3

SEN 720	Advanced Human Computer Interaction	3
SEN 756	Advanced Usability Engineering	3
CSC 728	Decision Support Systems	3
CSC 715	Intelligent Agents	3
CSC 719	Machine Learning	3
DSC 707	Deep Learning	3
CSC 741	Advanced Natural Language Processing	3
CEN 745	Advanced Digital Image Processing	3
CSC 749	Advanced Neural Networks and Fuzzy Logic	3
CSC 751	Pattern Recognition	3
CSC 764	Computer Vision	3
CSC 750	Intelligent Tutoring Systems	3
ESC 719	Distributed Networking	3
ESCC722	Network Administration and Management	3
ESC 756	Mobile Communications and Networking	3
EET 702	Advanced Network Security	3
EET 713	Advanced Network Design	3
EET 716	Advanced Topics in Wireless Networking and Communications	3

EET 718	Network Performance Evaluation	3
EET 761	Network Protocols and Standards	3
CSC 781	Cloud Computing	3
CSC 733	Advanced Information Theory	3
CSC 746	Advanced Data Mining	3
CSC 747	Text Mining	3
CSC 752	Advanced DBMS	3
CSC 753	Distributed Databases	3
CSC 754	Object Oriented Databases	3
CSC 755	Web based DBMS	3
CSC 756	Multimedia Databases	3
CSC 760	Advanced Data Warehousing	3
CSC 714	Advanced Information Retrieval Techniques	3
SEN 764	Ontology Engineering	3
SEN 761	Semantic Web (3)	3
CEN 759	Generative AI	3

MS (Data Science)

Program Title: MS (Data Science)

Duration: 2 Years

Eligibility Criteria: HEC recognized 4 years Bachelor degree in CS/SE/CE/EE/IT/Statistics/Mathematics or equivalent with CGPA 2.0/4.0 (Semester System) or 50% marks (Annual System). OR MIT/MCS/M.Sc. (Computer Science)/ M Phil Mathematics/M Phil Statistics or equivalent with CGPA 2.0/4.0 (Semester System) or 50% marks (Annual System).NTS-GAT (General)/ GRE/ University entry test passed with 50% marks.

Semester wise Road map

Semester 1

Sr. No.	Pre requisite Course Code	Course Code	Course Title	Credit Hours
1		DSC 777	Tools and Techniques in Data Science	3
2		DSC 701	Statistical and Mathematical Methods for Data Analysis	3
3		ESC 701	Research Methodology	3

Semester 2

Sr. No.	Pre requisite Course Code	Course Code	Course Title	Credit Hours
1		DSC 700	Big Data Analytics	3
2		CSC 719	Machine Learning	3
3			Elective I	3

Semester 3

Sr. No.	Pre requisite Course Code	Course Code	Course Title	Credit Hours
1		DSC 707	Deep Learning	3
2			Elective II	3
3			MS Thesis I / Elective – III	3

Semester 4

Sr. No.	Pre requisite Course Code	Course Code	Course Title	Credit Hours
1			MS Thesis II / Elective – IV	3

List of Electives Courses

Pre requisite	Course Code	Course Title	Credit Hours
	DSC 702	Data Visualization	3
	DSC 703	Distributed Data Engineering	3
	DSC 705	Unstructured Data Processing	3
	CSC 728	Decision Support Systems	3
	CSC 715	Intelligent Agents	3
	CSC 741	Advanced Natural Language Processing	3
	CEN 745	Advanced Digital Image Processing	3
	CSC 749	Advanced Neural Networks and Fuzzy Logic	3
	CSC 751	Pattern Recognition	3
	CSC 764	Computer Vision	3
	CSC 781	Cloud Computing	3
	CSC 733	Advanced Information Theory	3
	CSC 747	Text Mining	3
	CSC 752	Advanced DBMS	3
	CSC 760	Advanced Data Warehousing	3
	SEN 764	Ontology Engineering	3
	CEN 759	Generative AI	3
	CSC 746	Advanced Data Mining	3
	THS 799	Thesis	6

MS Information Security

Program Title: MS (Information Security)

Duration: 2 to 3 Years

Total Credit Hours: HEC recognized 4 years Bachelor degree in CS/SE/EE/CE/IT or equivalent, with CGPA 2.0/4.0 (Semester System) or 50% marks (Annual System). NTS-GAT (General) or GRE/University entry test passed with 50% marks.

Semester wise Road map

Semester 1

Sr. No.	Pre requisite	Course Code	Course Title	Credit Hours
1		ISC 711	Number Theory	3
2		CSC 721	Advanced Design and Analysis of Algorithms	3
3		ISC 712	Computer and Network Security	3

Semester 2

Sr. No.	Pre requisite	Course Code	Course Title	Credit Hours
1		Elective I	Elective I	3
2		ISC 721	Advanced Cryptography and Cryptanalysis	3
3		ESC 701	Research Methodology	3

Semester 3

Sr. No.	Pre requisite	Course Code	Course Title	Credit Hours
1			Elective II	3
2			Thesis I / Elective III	3
			Elective IV	3

Semester 4

Sr. No.	Pre requisite Course Code	Course Code	Course Title	Credit Hours
1			Thesis II / Elective V	3

List of Electives Courses

Pre requisite	Course Code	Course Title	Credit Hours
	ESC 719	Distributed Networking	3
	ESC 722	Network Administration and Management	3
	CSC 733	Advance Information theory	3
	ESC 756	Mobile Communication and Networking	3
	ISC 732	Advance Computer Security	3
	ISC 733	Information Hiding	3
	ISC 734	Wireless Network Security	3
	ISC 735	Cloud Computing Security	3
	ISC 736	Cyber Warfare	3
	ISC 737	Computer and Network Forensics	3
	ISC 738	Ethical Hacking	3
	ISC 739	Cyber Crimes and Laws	3
	ISC 740	Quantum Cryptography	3
	ISC 741	Algebraic Cryptanalysis	3
	ISC 742	Intrusion Detection and Prevention	3
	CSC 719	Machine Learning	3
	DSC 707	Deep Learning	3
	ISC 743	Penetration Testing and Vulnerability Analysis	3
	EET 710	Advanced Computer Networks	3
	CSC 720	Advanced Operating Systems	3
	ISC 731	Information Security Management	3
	ISC 748	Blockchain Essentials	3

MS Mathematics

Program Title: MS (Mathematics)

Duration: 2 years

Eligibility Criteria: HEC recognized 4 years Bachelor degree in BS (Mathematics)/M.Sc (Mathematics) or equivalent, with minimum 130 Credit Hours and CGPA 2.0/4.0 (Semester System) or 50% marks (Annual System). NTS-GAT (General) or GRE passed with 50% marks.

Semester wise Road map

Semester 1

Sr. No.	Pre requisite Course Code	Course Code	Course Title	Credit Hours
1			Core I	03
2			Core II	03
3			Core III	03

Semester 2

Sr. No.	Pre requisite Course Code	Course Code	Course Title	Credit Hours
1		ESC 701	Research Methodology	03
2			Core IV	03
3			Elective I	03

Semester 3

Sr. No.	Pre requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 799	MS Thesis	03
2			Elective II	03

Semester 4

Sr. No.	Pre requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 799	MS Thesis	03
2			Elective III	03

List of Core Courses

Course Code	Course Title	Credit Hours
MAT 710	Advanced Partial Differential Equations	03
MAT 711	Advanced Functional Analysis	03
MAT 713	Advanced Group Theory	03
MAT 739	Mathematical Techniques for Boundary Value Problems	03
MAT 726	Advanced Integral Equations and Applications	03
MAT 727	Riemannian Geometry	03
MAT 728	ODEs and Computational Linear Algebra	03
MAT 729	Advanced Mathematical Physics	03

List of Electives Courses

Course Code	Course Title	Credit Hours
MAT 737	Fluid Dynamics	03
ISC 711	Number Theory	03
MAT 712	Numerical Solution of Partial differential Equations	03
MAT 714	Non Newtonian Fluid	03
MAT 715	Perturbation Methods	03
MAT 716	Finite Element Method	03
MAT 717	Near Rings	03
MAT 718	Fuzzy Logic/Fuzzy Algebra	03
MAT 719	Advanced Ring Theory	03
MAT 720	Topological Algebras	03
MAT 721	Commutative Semigroup Rings	03
MAT 722	General Relativity	03
MAT 723	Advanced Analytical Dynamics	03
MAT 724	Heat and Mass Transfer	03

MAT 730	Numerical Optimization	03
ISC 721	Advanced Cryptography and Cryptanalysis	03
MAT 732	Probability Models and Applications	03
MAT 733	Advanced Modern Algebra with Applications	03
MAT 734	Spectral Methods in Fluid Dynamics	03
MAT 735	Simple Linear Regression Models	03
MAT 736	Lattice Boltzmann Method	03
Math 738	Lie Group Methods for Differential Equations	03

PhD Computer Science

Program Title: PhD Computer Science

Duration: 3 to 8 Years

Eligibility Criteria: 18 Years Education in the relevant discipline with a minimum CGPA of 3.00/4.00 (Semester System) or 60% marks (Annual System). NTS-GAT (General) or GRE (General) Test passed with minimum 60% marks or BU Admission Test (60% passing marks). Initial Research Proposal/Statement of Purpose is required at the time of PhD admission.

Semester-wise Road map

Semester 1

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		ESC 801	Research Methods in PhD Studies	3
2			Elective-I	3
3			Elective-II	3

Semester 2

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1			Elective-III	3
2			Elective-IV	3
3			Elective-V	3

Semester 3

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1			Comprehensive Exam	0
2		THS 900	PhD Thesis	9

Semester 4

Sr. No.	Pre-requisite	Course Code	Course Title	Credit Hours
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	Course Code			
1		THS 900	PhD Thesis	9

Semester 5

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

Semester 6

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

List of Electives Courses

Pre-requisite Course Code	Course Code	Course Title	Credit Hours
	CEN 807	Advance distributed systems	3
	SEN 810	Advance Neural Networks & Fuzzy Logic	3
	SEN 811	Data Ware Housing and Mining	3
	DSC 807	Advanced Deep Learning	3
	EET 851	Mobile and ad-hoc Networks	3
	CSC 819	Research Trends in Machine Learning	3
	CSC 851	Advanced Pattern Recognition	3
	SEN 862	Emerging Trends in Big Data Analytics	3
	CSC 881	Advanced Cloud Computing	3
	CSC 820	Advanced Topics in Operating Systems	3
	EET 835	Advance Topics in 5G and Beyond Communications	3
	EET 850	Wireless Sensor Networks	3
	SEN 802	Special Topics in Software Engineering	3
	SEN 810	Secure Software Systems	3
	EET 832	Advance topics in Network Security	3
	CEN 820	Advanced Computer Architecture	3
	DSC 800	Advanced Data Analytics	3

	CSC 841	Advanced Computational Linguistics	3
	DSC 802	Advanced Data Visualization	3
	CSC 860	Advanced Complexity Theory and Algorithms	3
	CEN 808	Advanced Techniques in System Modeling and Simulation	3
	SEN 816	Middleware For Networked and Distributed Systems	3
	CSC 800	Advanced AI Networking	3
	ESC 816	Advanced Wireless Communications	3
	SEN 861	Semantic Web Modeling and Applications	3
	SEN 864	Knowledge Representation and Reasoning	3
	ISC 821	Advance Topics in Cryptography	3
	SEN 808	Computer and Cybersecurity	3
	SEN 809	Internet of Things: Design and Applications	3
	EET 837	Advanced Data Communication Systems	3
	SEN 853	Advanced Power-Aware Computing	3
	ISC 843	Advanced Penetration Testing & Vulnerability Analysis	3

PhD Mathematics

Program Title: PhD Mathematics

Duration: 3 to 8 years

Total Credit Hours: 18 year of education (MS/MPhil/equivalent degree) in relevant discipline from an HEC recognized university with a minimum CGPA of 3.00/4.00 (Semester System) or 60% marks (Annual System). NTS-GAT (General) or GRE (General) Test passed with minimum 60% marks or BU Admission Test (60% passing marks). Initial Research Proposal/Statement of Purpose is required at the time of PhD admission.

Semester-wise Road map

Semester 1

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		ESC 801*	Research Methods in PhD Studies	3
2			Elective I	3
3			Elective II	3

Semester 2

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1			Elective III	3
2			Elective IV	3
3			Elective V	3

Semester 3

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

Semester 4

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

Semester 5

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

Semester 6

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

List of Electives Courses

Course Code	Course Title	Credit Hours
MAT 810	Advanced Elastodynamics	3
MAT 811	Modelling and Simulation of Dynamical Systems	3
MAT 812	Advanced Finite Element Analysis	3
MAT 813	Advanced Multivariate Methods and Analysis	3
MAT 814	Advanced Near Rings	3
MAT 815	Advanced Quantum Theory	3
MAT 816	Advanced Semigroup Theory	3
MAT 817	Nonlinear Waves	3
MAT 818	Advanced Partial Differential Equations II	3
MAT 819	Advanced Functional Analysis II	3
MAT 820	Advanced Numerical Solution of Partial differential Equations	3
MAT 821	Advanced Group Theory II	3
MAT 822	Advanced Non-Newtonian Fluid	3
MAT 823	Advanced Perturbation Methods	3
MAT 824	Advanced topics in Cryptography	3
MAT 825	Advanced Fluid Dynamics-II	3
MAT 826	Advanced Lie Group Methods for Differential Equations	3
MAT 827	Advanced Heat and Mass Transfer	3

Bachelor of Social Sciences

Program Title: Bachelor of Social Sciences

Duration: 4 Years (8 Semesters)

Eligibility Criteria: All candidates who have passed intermediate examination or its equivalent with a minimum of 50% marks in any discipline can apply for admission to BSS

Road Map for BSS

Semester 1

S. No.	Course Code	Course Title	Credit Hours
1	ENG 101	Functional English	3
2	BES 204	Introduction to Computer Applications	3
3	PSY 102	Social Sciences	2
3	HSS 110	Introduction to Development Studies	3
5	ISL 101	Islamic Studies	2
6	PAK 109	Ideology and Constitution of Pakistan	2
7	ISL 107	Tajweed	0

Semester 2

S. No.	Course Code	Course Title	Credit Hours
1	ENG 213	Interdisciplinary I	3
2	MAT 105	Quantitative Reasoning - I	3
3	ENV 111	Natural Sciences	3
4	PAK 105	Pakistan Studies	2
5	HSS 202	Introduction to Sociology	3
6	HSS 111	Introduction to International Relation	3
7	ISL 108	Understanding Quran-I	0

Semester 3

S. No.	Course Code	Course Title	Credit Hours
1	ENG 207	Expository Writing	3
2	QTM 105	Quantitative Reasoning – II	3
3	HSS 201	Introduction to Anthropology	3
4	BES 106	Research Methodology	3
5	ANT 230	Gender Studies	3
6	MED 107	Introduction to Mass Communication	3
7	ISL 109	Understanding Quran-II	1

Semester 4

S. No.	Course Code	Course Title	Credit Hours
1	DST 301	Introduction to Microeconomics	03
2	DST 303	Theories of Development: Contending Perspectives	03
3	HSS 112	Introduction to Political Science	03
4	HSS 219	Civics and Community Engagement	02
5	HSS 423	Entrepreneurship	02
6	DSS 402	Qualitative Research Methods	3
7	ISL 110	Understanding Quran-II	1

*** 12 courses of General Education for 32 Credit Hours are completed in first 4 semester**

**** Students are Eligible for a 3 Credit Hours internship of 6 – 8 weeks after 4th semester. This internship is to be started and completed preferably in summer break after 4th semester.**

Semester 5

S. No	Course Code	Course Title	Credit Hours
1	DST 302	Macroeconomics	3
2	DST 410	Development Project: Planning, Appraisal & Implementation	3

3	HSS 401	Statistical Analysis of Social Data	3
4	DST 336	Climate Change Politics, Policy & Practices	3
5	DST 417	Integrated Development Project Management	3
6		Major Elective Course – I	3
7	ISL 111	Understanding Quran-IV	1
		Total	15

Semester 6

S. No	Course Code	Course Title	Credit Hours
1	DST 436	Urbanization in the Developing World	3
2	DST 409	Development Policy: Process and Institutions	3
3	DST 437	Development Planning in Pakistan	3
4		Major Elective Course – II	3
5		Major Elective Course – III	3
6	ISL 112	Understanding Quran-V	1

Semester 7

S. No	Course Code	Course Title	Credit Hours
1	DST 343	Health & Development: Perspectives, Issues and Practices	3
2	DST 414	Migration, Diaspora & Development	3
3	DST 312	Rural Development: Issues and Challenges	3
		Major Elective Course – IV	3
5		Major Elective Course – V	3
6	ISL 113	Seerah – I	1

Semester 8

S. No	Course Code	Course Title	Credit Hours
1	DST 310	Poverty Alleviation: Contending Approaches	3
2	DST 401	Sustainable Development & Livelihood Strategies	3
3		Major Elective Course – VI	3
4		Major Elective Course – VII	3
5	ISL 114	Seerah – II	0
		Capstone Project	3

List of Electives
Development Studies Electives

Sr. No	Course Code	Course Title	Credit Hours
1	DST 308	Sociology of Development	3
2	DST 401	Sustainable Development & Livelihood Strategies	3
3	DST 402	Social Development: Issues & Approaches	3
4	DST 403	Civil Society & Development	3
5	DST 406	Women Empowerment: Issues and Perspectives	3
6	DST 410	Development Project: Planning, Appraisal & Implementation	3
7	DST 411	Development Project: Monitoring & Evaluation	3
8	DST 404	Global Development Experiments	3
9	DST 405	Globalization & World Development	3
10	DST 337	Governance, Democracy & Development in Countries in	3

		Transition	
11	DST 407	Community Development	3
12	DST 413	Law & Development	3
13	DST 338	Disaster Management & Assistance	3
14	DST 339	Foundation of Social Policy	3
15	DST 344	Religion & Development	3
16	DST 340	Human Rights & Development	3
17	DST 341	Conflict and Peace	3
18	DST 342	Political Paradigm in Developing Countries	3
19	DST 343	Health & Development: Perspectives, Issues and Practices	3
20	DST 345	Contemporary Issues in Child Protection	3

International Relations Electives

Sr. No	Course Code	Course Title	Credit Hours
1	IRS 313	Foreign Policy Analysis	3
2	IRS 319	Government and Politics in Pakistan	3
3	IRS 310	Foreign Policies of Great Powers	3
4	IRS 401	Human Rights & Global Politics	3
5	IRS 402	Global Environmental Politics	3
6	IRS 409	Strategic Studies	3
7	IRS 410	Conflict & Conflict Resolution	3
8	IRS 417	Arms Control & Disarmament	3

9	IRS 323	Comparative Political Systems	3
10	IRS 311	American Foreign Policy	3
11	IRS 404	Issues in North-South Relations	3
12	IRS 408	International Terrorism	3
13	IRS 315	Politics of Developing Nations	3
14	IRS 411	Religion & Politics	3
15	IRS 412	Theories of Nationalism	3
16	IRS 413	Democratic Transitions: Issues & Challenges	3
17	IRS 321	Politics of Development	3
18	IRS 322	International Financial Institutions	3
19	IRS 415	Global Governance & Development	3

General Courses

Sr. No	Course Code	Course Title	Credit Hours
1	HSS 115	Introduction to Media Studies	3
2	HSS 111	Introduction to International Relations	3
3	HSS 112	Introduction to Political Science	3
4	HSS 102	Introduction to Philosophy	3
5	HSS 107	Introduction to Psychology	3
6	HSS 110	Introduction to Development Studies	3
7	HSS 201	Introduction to Anthropology	3
8	HSS 202	Introduction to Sociology	3
9	HSS 109	Arabic	2
10	HSS 163	Chinese	2

11	HSS 160	French	2
12	HSS 164	German	2
13	HSS 161	Russian	2
14	HSS 162	Spanish	2
15	HSS 214	Turkish	2
16	HSS 330	Physical Education & Sports	2

BS Development Studies

Program Title: BS Development Studies
Duration: 4 Years (8 Semesters)
Eligibility Criteria: Intermediate/A level/Equivalent with at Least 50% marks.

Roadmap of BS Development Studies

Semester-1

S No	Course Code	Course Title	Credit Hours
1	ENG 101	Functional English	3
2	BES 204	Applications of Information and Communication Technologies (ICT)	3
3	PAK 104	Ideology and Constitution of Pakistan	2
4	HSS 330	Arts & Humanities	2
5	ISL 102	Islamic studies	2
6	TBD	Entrepreneurship	2
7	HSS 110	Introduction to Development Studies	3
8	ISL 107	Tajweed	Compulsory 01 contact hour

Semester-2

S No	Course Code	Course Title	Credit Hours
1		Expository Writing	3
2		Quantitative Reasoning-1	3
3		Natural Science	3
4		Social Science	2
5	DST 340	Human Rights and Development	3

6	DST 341	Conflict and Peace	3
7	ISL 108	Understanding Quran-I	Compulsory 01 contact hour

Semester-3

S No	Course Code	Course Title	Credit Hours
1		Interdisciplinary-I	3
2		Quantitative Reasoning-1	3
3	HSS 219	Civics and Community Engagement	3
4	BES 106	Research Methodology	3
5	DST 307	Development Economics	3
6		Interdisciplinary-II	3
7	ISL 109	Understanding Quran-II	Compulsory 01 contact hour

Semester-4

S No	Course Code	Course Title	Credit Hours
1	DST 301	Introduction to Microeconomics	3
2	DST 303	Theories of Development: Contending Perspectives	3
3	HSS 402	Qualitative Research Methods	3
4	DST 408	Development Communication	3
5		Interdisciplinary-III	3
6		Pakistan Studies	2
7	ISL 110	Understanding Quran-III	Compulsory 01 contact hour

Semester-5

S No	Course Code	Course Title	Credit Hours
1	DST 302	Macroeconomics	3
2	HSS 401	Statistical Analysis of Social Data	3
3	DST 336	Climate Change Politics, Policy & Practices	3
4	DST 410	Development Projects: Planning, Appraisal & Implementation	3
5		Interdisciplinary-IV	3
6	ISL 111	Understanding Quran IV	Compulsory 01 contact hour

Semester-6

S No	Course Code	Course Title	Credit Hours
1	DST 411	Development Project: Monitoring & Evaluation	3
2	DST 409	Development Policy: Process and Institutions	3
3	DST 339	Foundation of Social Policy	3
4	DST 338	Disaster Management & Assistance	3
5	DST 345	Contemporary issues in Child Protection	3
6	ISL 112	Understanding Quran IV	Compulsory 01 contact hour

Semester-7

S No	Course Code	Course Title	Credit Hours
1	DST 343	Health & Development: Perspectives, Issues and Practices	3
2	DST 414	Migration, Diaspora & Development	3
3		Major – Elective-I	3
4		Major – Elective-II	3

5		Major – Elective-III	3
6	ISL 113	Seerah – I	Compulsory 01 contact hour

Semester-8

S No	Course Code	Course Title	Credit Hours
1	DST 310	Poverty Alleviation: Contending Approaches	3
2	DST 401	Sustainable Development & Livelihood Strategies	3
3		Major – Elective-IV	3
4		Major – Elective-V	3
5		Capstone Project	3
6	ISL 114	Seerah – II	Compulsory 01 contact hour

Semester-wise Road map for Single Major with one Minor

Semester-7

S No	Course Code	Course Title	Credit Hours
1	DST 343	Health & Development: Perspectives, Issues and Practices	3
2	DST 414	Migration, Diaspora & Development	3
3		Major – Elective-I	3
4		Major – Elective-II	3
5		Major – Elective-III	3
6		Minor I	3
7		Minor II	3
8	ISL 113	Seerah – I	Compulsory 01 contact hour

Semester-8

S No	Course Code	Course Title	Credit Hours
1	DST 310	Poverty Alleviation: Contending Approaches	3
2	DST 401	Sustainable Development & Livelihood Strategies	3
3		Major – Elective-IV	3
4		Major – Elective-V	3
5		Minor III	3
6		Minor IV	3
7		Capstone Project	3
8	ISL 114	Seerah – II	Compulsory 01 contact hour

List of Elective Courses

Minor I: Environmental Development

S#	Course Code	Course Title	Category	CH
1	DST 415	Geographic Information System and Development	Minor	3
2	DST 416	Natural Resource Management for National Development	Minor	3
3	DST 417	Water Resource Management: Issues, Strategies and Perspectives	Minor	3
4	DST 418	Vulnerability, Disaster Risk Reduction and Preparedness	Minor	3
5	DST 419	Tourism and Development	Minor	3
6	DST 420	Climate Change, Sustainability and Development	Minor	3

Minor II: Peace, Conflict and Development

S#	Course Code	Course Title	Category	CH
1	DST 421	Conflict Prevention, Peacebuilding and Development	Minor	3

2	DST 422	Theories of Peace and Conflict	Minor	3
3	DST 423	State Security and Challenges to Development	Minor	3
4	DST 424	International Institutions and Human Rights	Minor	3
5	DST 425	Power, Participation and Social Change	Minor	3
6	DST 426	Aid, Trade and Development	Minor	3

Minor III: Gender and Development

S#	Course Code	Course Title	Category	CH
1	DST 427	Gender, Families and Households	Minor	3
2	DST 428	Feminism and Feminist Issues in the Global South	Minor	3
3	DST 429	Rethinking Gender and Empowerment	Minor	3
4	DST 430	Women, Migration and Development	Minor	3
5	DST 431	Gender and Globalization	Minor	3
6	DST 432	Gender, Health and Development	Minor	3

Minor IV: International Development

S#	Course Code	Course Title	Category	CH
1	IRS 303	Global Political Economy	Minor	3
2	IRS 321	Politics of Development	Minor	3
3	IRS 308	International Organizations	Minor	3
4	IRS 402	Global Environmental Politics	Minor	3
5	IRS 415	Global Governance & Development	Minor	3
6	IRS 401	Human Rights & Global Politics	Minor	3

Minor V: Anthropology

S#	Course Code	Course Title	Category	CH
1	ANT 108	Social and Cultural Change	Minor	3
2	ANT 330	Anthropology of Media	Minor	3
3	ANT 410	Anthropology of Science & Technology	Minor	3
4	ANT 415	Corporate Anthropology	Minor	3
5	ANT 307	Legal Anthropology	Minor	3

Bachelor of Studies in English

Program Title: Bachelor of Studies in English
Duration: 4 years
Eligibility Criteria: Intermediate/A level/Equivalent with at Least 50% marks.

Summary of Credit Hours

Semester 1

S. No.	Pre-Requisite with Course code	Course Code	Course Title	Credit Hours	Category	17 UN SDGs alignment
1		ENG 101	Functional English	3	G	4&16
2		PAK 105	Pakistan Studies*	2	G	3&4
3			Arts & Humanities*	2	G	4&9
4			Applications of Information and Communication Technologies (ICT)*	3	G	4&9
5			Civics & Community Engagement*	2	G	17
6		ENG 116	Introduction to English Literature 1(Drama &Poetry)	3	M	4
7		ENG 109	Introduction to Linguistics	3	M	4
8		ISL 107	Tajweed	Compulsory NC	G	4
			Total Credit Hours	18		

Semester 2

S. No.	Pre-Requisite with Course code	Course Code	Course Title	Credit Hours	Category	17 UN SDGs alignment
1	(ENG 101) Functional English		Expository Writing*	3	G	4
2		PAK 109	Ideology and Constitution of Pakistan*	2	G	3&4
3			Natural Sciences*	3	G	4,5&10
4			Quantitative Reasoning-1*	3	G	4
5		ENG 112	Phonetics and Phonology	3	M	4
6		ENG 110	History of English Literature I (Medieval to Romantics)	3	M	4
7		ISL 203	Fehmul Quran– I	1 CrH (3 Contact hours)	G	4
Total Credit Hours				18		

*Non-Muslim Students will study any General course having 2 Credit Hours (# Contact Hours) in lieu of Fehmul QuranI & II

Semester 3

S. No.	Pre-Requisite with Course code	Course Code	Course Title	Credit Hours	Category	17 UN SDGs alignment
1			Interdisciplinary-I	3	I	4
2			Social Sciences*	2	G	3
3			Quantitative Reasoning -II*	3	G	4
4			Islamic Studies * (Religious Edu / Ethics for non-Muslim students)	2	G	4&16
5		ENG 222	Morphology & Syntax	3	M	4
6	ENG 116 Introduction to Literature 1 (Drama & Poetry)	ENG 203	Introduction to Literature II (Novel & Prose)	3	M	4
			Total	16		

Semester 4

S. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1			Entrepreneurship*	2	G	4,8,9&12
2			Interdisciplinary-II	3	I	4.5&10
3			Interdisciplinary-III	3	I	4
4		ENG 413	Pragmatics	3	M	4
5		ENG 210	Semantics	3	M	4
6	ENG 110 History of English Literature I (Medieval to Romanticism)	ENG 211	History of English Literature II (Romanticism to Present Age)	3	M	4
7		ISL 204	Fehmul Quran-- II	1 CrH (3 Contact hours)	G	4
	Total Credit Hours 18					

Note: Internship of 6-9 weeks after 4th Semester.

Semester 5

S.No.	Pre-Requisite with Course code	Course Code	Course Title	Credit Hours	Category	17 UN SDGs alignment
1		ENG 307	Classics in Drama	3	M	4
2		ENG 405	Stylistics	3	M	4
3		ENG 306	Literary Criticism and Theory	3	M	4
4		ENG 303	Classical Poetry (14-18 century)	3	M	4
5		ENG 310	Sociolinguistics	3	M	4
6		ENG 312	Discourse Analysis	3	M	4
	Total Credit Hours			18		

Semester 6

S.No.	Pre-Requisite with Course code	Course Code	Course Title	Credit Hours	Category	17 UN SDGs alignment
1		ENG 333	Non-Fiction	3	M	4
2		ENG 313	Psycholinguistics	3	M	4
3		ENG 486	Varieties of English	3	M	4
4		ENG 304	Novel (18-19 century)	3	M	4
5		ENG 308	Romantic Poetry	3	M	4
Total Credit Hours				15		

Semester 7

S. No	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	Category	17 UN SDGs alignment
1		ENG 305	Research Methodology	3	M	4
2			Elective I	3	E	4
3			Elective II	3	E	4
4			Elective III	3	E	4
5			Elective IV	3	E	4
6		ISL 113	Seerah – I	0	Non-Credit Course	4
Total Credit Hours				15		

Semester 8

S. No.	Pre-Requisite with Course code	Course Code	Course Title	Credit Hours	Category	17 UN SDGs alignment
1			Elective V	3	E	4
2			Elective VI	3	E	4
3			Elective VII	3	E	4
4		ENG 334	Language & Technology in the Digital Age	3	I	4
5		RGS 490	Capstone Project	3	CS	4
6		ISL 114	Seerah – II	0	Compulsory NC	4
Total Credit Hours				15		

General Education Courses

Sr#	Course Category	Course Title	Credit Hours
1	Arts & Humanities	French Language Russian Language Arabic Language German Language Chinese Language Spanish Language Turkish Language Physical Education & Sports	2
2	Natural Sciences	Introduction to Environmental Studies	3

3	Social Sciences	Fundamentals of International Relations Fundamentals of Development Studies Introduction to Psychology	2
4	Functional English	Functional English	3
5	Expository Writing	Advance Academic reading and Writing Skills Creative Writing Expository Writing	3
6	Quantitative Reasoning	Mathematics Statistics	3+3
7	Islamic Studies (OR) Religious Education Studies only for non- Muslim students	Islamic Studies	2
8	Ideology and Constitution of Pakistan	Ideology and Constitution of Pakistan Pakistan Studies	2+2
9	Applications of Information and Communication Technologies (ICT)	Introduction to Computer Applications	3
10	Entrepreneurship	Entrepreneurship	2
11	Civics and Community Engagement	Civics and Community Engagement	2
12	Tajweed		0
13	Understanding of Holy Quran / Fehmul QuranI		1
14	Understanding of Holy Quran / Fehmul QuranII		1
15	Seerah-I		0
16	Seerah-II		0
Total			34 CHs

Interdisciplinary/Allied Requirements

Sr. #	Course Code	Course Title	CHs
1	ANT 230	Gender Studies	3
2	ENG 213	OC & Presentation Skills	3
3	HSS 102	Introduction to Philosophy	3
4	HSS 202	Introduction to Sociology	3
5	BES 103	Critical Thinking	3
6	MED 115	Introduction to Mass Communication	3
7	HSS 115	Introduction to Media Studies	3
8	HSS 201	Introduction to Anthropology	3
9	ENG 334	Language & Technology in the Digital Age	3
			27 CHs

BS in English Core Courses to be offered in Major Category

Core Courses For Majors			
S#	Course Code	Course Title	CHs
1	ENG 116	Introduction to English Literature-I (Drama & Poetry)	3
2	ENG 109	Introduction to Linguistics	3
3	ENG 110	History of English Literature I (Medieval to Romantics)	3
4	ENG 112	Phonetics and Phonology	3
5	ENG 222	Morphology and Syntax	3
6	ENG 203	Introduction to Literature II (Novel & Prose)	3
7	ENG 210	Semantics	3
8	ENG 211	History of English Literature II (Romantics to Present Age)	3
9	ENG 303	Classical Poetry (14-18 century)	3
10	ENG 304	Novel (18-19 Century)	3
11	ENG 305	Research Methodology	3
12	ENG 306	Literary criticism & Theory	3
13	ENG 307	Classics in drama	3
14	ENG 308	Romantic Poetry	3
15	ENG 486	Varieties of English	3
16	ENG 310	Sociolinguistic	3
17	ENG 312	Discourse Analysis	3
18	ENG 313	Psycholinguistics	3
19	ENG 405	Stylistics	3
20	ENG 413	Pragmatics	3
21	ENG 333	Non- Fiction	3

Electives for Major

Literature			
Sr.#	Course Code	Course Title	CHs
1	ENG 410	Post-Colonial Literature	3
2	ENG 411	Literary Discourse & Journalistic Writing	3
3	ENG 451	African Literature	3
4	ENG 452	Continental Literature	3
5	ENG 453	Fantasy	3
6	ENG 454	Islam and Western Literature	3
7	ENG 455	Journalist Discourse	3
8	ENG 456	Literary Essays	3
9	ENG 457	Literature of War and Conflict	3
10	ENG 458	Literature, Culture and Media	3
11	ENG 459	Modern Drama and Novel	3
12	ENG 460	Modern Poetry	3
13	ENG 461	Pakistani Literature in English I	3
14	ENG 462	Pakistani Literature in English II	3
15	ENG 463	Popular Fiction	3
16	ENG 464	Russian Literature	3

17	ENG 465	Shakespeare Studies	3
18	ENG 515	Western Literature	3
19	ENG 516	World Literature	3
20	ENG 517	Feminist Literature	3
21	ENG 518	Comparative Studies	3
22	ENG 403	American / Canadian Literature	3
23	ENG 402	South Asian Literature	3
24	ENG 401	Contemporary Literature I (Poetry & Drama)	
25	ENG 409	Contemporary Literature II (Prose & Novel)	

Linguistics			
Sr.#	Course Code	Course Title	CHs
1	ENG 406	Language Learning Theories	3
2	ENG 407	Syllabus Designing and Testing	3
3	ENG 408	TEFL-I	3
4	ENG 412	TEFEL-II	3
5	ENG 471	Computational Linguistics	3
6	ENG 472	Corpus Linguistics	3
7	ENG 473	Critical Pedagogy	3
8	ENG 474	Educational Technology	3
9	ENG 475	Forensic Linguistics	3
10	ENG 476	History of Modern Linguistics	3
11	ENG 477	Language and Education	3
12	ENG 478	Language and Gender	3
13	ENG 479	Language Testing	3
14	ENG 480	Linguistic Survey of Pakistan	3
15	ENG 481	Linguistics and Law	3
16	ENG 482	Linguistics and Translation	3
17	ENG 483	Second Language Acquisition	3
18	ENG 484	Technology in Language Teaching	3
19	ENG 485	Testing and Evaluation	3
20	ENG 520	English for Specific Purposes	3
21	ENG 521	Translational Studies	3
22	ENG 522	English Language Teaching	3
23	ENG 523	Media Discourse Analysis	3
24	ENG 414	Introduction to Applied Linguistics	3
25	ENG 311	Pedagogical Grammar	3
26	ENG 314	Lexical Studies	3

BS (International Relations)

Program Title: **Bachelor of Science in International Relations**
Duration: 4 years (08 Semester)
Eligibility Criteria: Intermediate/A level/Equivalent with at Least 50% marks

Semester-wise Road map

Semester 1

S No	Course Code	Course Title	Credit Hours
1	ENG 101	Functional English	3
2	BES 204	Introduction to Computer Applications	3
3		Interdisciplinary- I	3
4		Quantitative Reasoning	3
5		Natural Sciences*	3
6	IRS 101	Introduction to International Relations	3
7	ISL 107	Tajweed	Compulsory 01 contact hour

Semester-2

S No	Course Code	Course Title	Credit Hours
1	IRS 330	Geo-Political Structure of the World	3
2	MAT 105	Expository Writing*	3
3	IRS 442	International Relations: 1648–1945	3
4		Quantitative Reasoning- II	3
5	PAK 105	Pakistan Studies	2
6	IRS 360	Regional and International Organizations	3
7	ISL 108	Understanding Quran-I	Compulsory 01 contact hour

Semester-3

S No	Course Code	Course Title	Credit Hours
1		Arts & Humanities*	2
2	IRS 301	Theories of International Relations	3
3	IRS 307	International Relations Since 1945	3
4	IRS 309	International Law	3
5		Islamic Studies * (Religious Edu / Ethics for non-Muslim students)	2
6		Ideology & Constitution of Pakistan	2
7	ISL 109	Understanding Quran-II	Compulsory 01 contact hour

Semester-4			
S No	Course Code	Course Title	Credit Hours
1	IRS 361	Globalization and International Relations	3
2	IRS 302	Foreign Policy of Pakistan	3
3	IRS 313	Foreign Policy Analysis	3
4	IRS 313	Social Sciences*	2
5	ANT 230	Civics & Community Engagement *	2
6	MGT	Entrepreneurship	2
7	ISL 110	Understanding Quran-III	Compulsory 01 contact hour
Note: Internship of 6-9 weeks after 4th Semester			
Semester-5			
S No	Course Code	Course Title	Credit Hours
1	IRS 314	Diplomacy	3
2	IIRS 303	Global Political Economy	3
3	IRS 402	Global Environmental Politics	3

4		Interdisciplinary- II	3
5	IRS 410	Conflict & Conflict Resolution	3
		Interdisciplinary III	3
6	ISL 111	Understanding Quran IV	Compulsory 01 contact hour

Semester-6

S No	Course Code	Course Title	Credit Hours
1	IRS 310	Foreign Policies of Great Powers	3
2	IRS 409	Strategic Studies	3
3		Elective 1	3
4		Elective 2	3
5	IRS 363	Academic Writing & Research Methods*	3
6	ISL 112	Understanding Quran IV	Compulsory 01 contact hour

Semester-7

S No	Course Code	Course Title	Credit Hours
1	IRS 476	Regional Connectivity	3
2	IRS 420	Nuclear Security and Non-proliferation	3
3		Elective-III	3
4		Major – Elective-IV	3
5		Interdisciplinary IV	3
6	ISL 113	Seerah -I	Compulsory 01 contact hour

Semester-8

S No	Course Code	Course Title	Credit Hours
1	IRS417	Arms Control and Disarmament	3
2		Elective- V	3
3		Elective-VI	3
4		Elective-VII	3
5		Capstone Project	3
6	ISL 114	Seerah – II	Compulsory 01 contact hour

Semester-wise Road map for Single Major with one Minor

Semester-7

S No	Course Code	Course Title	Credit Hours
1	IRS 412	Theories of Nationalism	3
2	IRS 310	Foreign Policies of Great Powers	3
3		Major – Elective-I	3
4		Major – Elective-II	3
5		Major – Elective-III	3

6		Minor I	3
7		Minor II	3
8	ISL 113	Seerah – I	Compulsory 01 contact hour
Semester-8			
S No	Course Code	Course Title	Credit Hours
1	IRS 401	Human Rights & Global Politics	3
2	IRS 417	Arms Control and Disarmament	3
3		Major – Elective-IV	3
4		Major – Elective-V	3
5		Minor III	3
6		Minor IV	3
7		Capstone Project	3
8	ISL 114	Seerah – II	Compulsory 01 contact hour
<u>List of Elective Courses</u>			
Sr. No	Course Code	Course Title	Credit Hours

1	IRS 405	International Politics of South Asia	3
2	IRS 325	State & Society of South Asia	3
3	IRS 406	International Politics of Central Asia	3
4	IRS 320	Government & Politics in Central Asia	3
5	IRS 407	International Politics of Southeast Asia	3
6	IRS 326	American Government & Politics	3
7	IRS315	Politics of Developing Nations	3
8	IRS 525	Role of International Financial Institutions in International Relations	3
9	IRS 527	Politics & Security of Asia-Pacific Region	3
10	IRS 529	Contemporary Environmental Issues	3
11	IRS 530	Major Issues of Muslim World	3
12	IRS 532	Peace Building in Post-Conflict Societies	3
13	IRS 537	Contemporary Political Theories	3
14	IRS 543	Power Politics and Beyond: Emerging Paradigms	3
15	IRS 503	Seminar on Contemporary Regional & Global Issues	3
16	IRS 504	Traditional & Non-Traditional Security Paradigms	3
17	IRS 515	Role of IMF, World Bank, & WTO)	3
18	IRS 502	Advanced Research Methodology	3
19	IRS 517	Evolution & Development of International Political Philosophy	3
20	IRS 519	Ethnic Conflict in Global Perspective	3
21	IRS 527	Politics & Security of Asia-Pacific Region	3
22	IRS 529	Contemporary Environmental Issues	3
23	IRS 530	Major Issues of Muslim World	3
24	IRS 415	Global Governance and Development	3
25	IRS 402	Global Environmental Politics	3
26	IRS 795	Emerging Technologies in IR	3

MINOR 1: Maritime

S#	Course Code	Course Title	Category
1	MTM 673	Blue Economy of Pakistan	Minor Course
2	MTM 674	Geo-politics & Maritime Security in Indian Ocean	Minor Course
3	IRS 423	Issues of Maritime Security for Pakistan	Minor Course
4	IRS 424	Politics of Sea	Minor Course

MINOR 2: Political Ecology

S#	Course Code	Course Title	Category
1	IRS 425	Political Ecology of Development	Minor Course
2	IRS 426	Climate Change and Human Security	Minor Course
3	IRS 427	Global Environmental Governance	Minor Course
4	IRS 428	Biodiversity & Sustainable Development	Minor Course
5	IRS 429	Agrarian Development, Food Policy & Rural Poverty	Minor Course

MINOR 3: Artificial Intelligence

S#	Course Code	Course Title	Category
1	IRS 430	Artificial Intelligence & International Affairs	Minor Course
2	IRS 431	Artificial Intelligence & the Future of Warfare	Minor Course
3	IRS 432	The Economics of AI	Minor Course
4	IRS 433	Artificial Intelligence & Human Security	Minor Course
5	IRS 434	Digital Diplomacy	Minor Course

MINOR 4: Anthropology

S#	Course Code	Course Title	Category
1	ANT 448	Ethnicity, Nationality, and Morality	Minor Course
2	ANT 325	Anthropology of Peace and Conflict	Minor Course
3	ANT 328	Anthropology of Art	Minor Course
4	ANT 314	Disasters & Displacement	Minor Course
5	ANT 403	Political Anthropology	Minor Course

MS – Applied Anthropology

Program Title: MS Applied Anthropology

Duration: 2 Years (4 Semesters)

Eligibility Criteria: Candidates with 16 years of education in Social/Natural Sciences and related disciplines having CGPA of 2.0/4.0 in the semester system, or 50% marks in the annual system. Candidate must pass the entry test of Bahria University or GAT general.

Roadmap of MS Applied Anthropology

1st Semester- MS

S No	Course Title	Course Code	Credit Hours
1	Applied Anthropology in Community Development: Contending Perspectives	APA 701	3
2	Classical Anthropological Theory: Issues and Debates	APA 702	3
3	Elective-I		3
4	Elective-II		3

2nd Semester- MS

S No	Course Title	Course Code	Credit Hours
1	Advanced Research Methods in Anthropology	APA 703	3
2	Contemporary Anthropological Theories: Debates and Critique	APA 704	3
3	Elective-III		3
4	Elective-IV		3

3rd & 4th Semester- MS

Semester	Name of the Subject	Course Code	Credits Hours
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Third and Fourth	Thesis	THS 700	3+3
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DETAILS OF CORE AND OPTIONAL COURSES

CORE COURSES

NO	Course Name	Course Code	Credit hours
1	Applied Anthropology in Community Development	APA 501	3
2	History of Anthropological Thought	APA 502	3
3	Research Methods in Anthropology	APA 503	3
4	Contemporary Anthropological Theories	APA 504	3

OPTIONAL COURSES

NO	Course Name	Course Code	Credit hours
1	Technology and Cultural Growth: Contemporary Debates	APA 705	3
2	Applied Medical Anthropology	APA 706	3
3	Digital Anthropology and Artificial Intelligence	APA 707	3
4	International Development: Socio-Cultural Perspectives	APA 708	3
5	Anthropology and Human Rights: Global Debates	APA 709	3
6	Anthropological Studies of Women: Emerging Discourses	APA 710	3
7	Philosophy of Social Sciences: From Classical to Modern Era	APA 711	3
8	Environmental Anthropology: Key Issues and Debates	APA 712	3
9	Anthropology Myth and Folklore	APA 713	3
10	Anthropological Perspective on Women and Development	APA 714	3
11	Anthropology of Religion: Beliefs, Rituals and Pluralism	APA 715	3

12	Anthropology of Media: From Classical to Digital Era	APA 716	3
13	Women's Rights & Politics in Islamic Society: Social and Political Perspectives	APA 717	3
14	Anthropology of Tourism, Heritage and Development	APA 718	3
15	Anthropology of Disaster, Displacement and Risk Management	APA 719	3
16	Migration and Diaspora: Global Insights	APA 520	3
17	Human Resource Management: An Anthropological Approach	APA 721	3
18	Business Anthropology: Modern Trends	APA 722	3
19	Development Communication: Current Perspectives	APA 723	3
20	Anthropology of Globalization and Trans culturalism: Issues, Debates and Critique	APA 724	3

MS IN GOVERNMENT & PUBLIC POLICY

Program Title: Government & Public Policy

Duration: 2 Years (4 Semesters)

Eligibility Criteria: 16 Years of education from HEC recognized university in the relevant discipline with a Minimum CGPA 2.0/4.0 or 50% marks where CGPA is not given.

Semester 1

Course Code	Course Title	Credit Hours
GPP 700	Analyzing Public Policy: Concepts , Challenges, and Impacts	3
GPP 701	Dynamics of Public Policy & Institutions	3
	Elective-1	3
	Elective-2	3

Semester 2

Course Code	Course Title	Credit Hours
GPP 702	Advanced Political Economy of Public Policy	3
GPP 703	Understanding Advance Research Methods & Techniques	3
	Elective-3	3
	Elective-4	3

Total course work credit hours: 24

Semester 3 & 4 – Second Year

Course Code	Course Title	Credit Hours
THS 700	Thesis	3+3

Total research work credit hours: 06

Total Degree Credit Hours: 24 (Course work) + 06 (Research work) = 30 Credit Hours

DEFICIENCY COURSES

Course Codes	Course Name	Credit Hours
BES 106	Research Methodology	3
HSS 110	Introduction to Development Studies	3
DST 337	Governance, Democracy & Development in Countries in Transition	3

ELECTIVE COURSES

Course Codes	Course Name	Credit Hours
GPP 705	Understanding Social Policy	3
GPP 706	Advanced Urban Development	3
GPP 707	Advanced Health Policy	3
GPP 708	Advanced Evidence in Public Policy	3
GPP 709	Advanced Global and Local Governance	3
GPP 710	Contemporary Migration Governance in Times of Crisis	3
GPP 711	Advanced Public Policy for Agrarian Markets	3
GPP 712	Advanced Data and Development	3
GPP 713	Advanced Qualitative Methods for Public Policy	3
GPP 714	Governance, Legal Frameworks and Public Policy	3
GPP 715	Contemporary Public Policy of gender-sensitive governance	3
GPP 516	Lessons and Public Policy: Dynamics, Challenges, and Impacts	3
GPP 717	Understanding Media and Public Policy governance	3

MS in International Relations

Program Title: MS International Relations

Duration: 2 Years (4 Semesters)

Eligibility Criteria: 16 Years of education in International relations, Anthropology, Sociology, Development studies, Political Science, Gender studies, Behavioral Science, Pakistan studies or in relevant field. Minimum CGPA of 2.0 in the semester system, or 50% marks in the annual system. Candidate must pass the entry test of Bahria University or GAT general conducted by the NTS with minimum 50% cumulative score.

Semester-wise Road map

1st Semester

Sr No	Course Code	Course Title	Credit Hours
1.	IRS 781	Advanced Methods in Research Methodology	3
2.	IRS 766	Foreign Policy analysis: Theoretical Foundations and Applications	3
3.	IRS 752	Advanced Theory and Practice in International Relations	3
4.	IRS 751	Conventional and Unconventional Security Paradigms	3

2nd Semester

Sr No	Course Code	Course Title	Credit Hours
1.		Elective II	3
2.		Elective III	3
3.		Elective IV	3
4.		Elective V	3

3rd Semester

Sr No	Course Code	Course Title	Credit Hours
1.		THS 700	Thesis

4th Semester

Sr No	Course Code	Course Title	Credit Hours
1.		THS 700	Thesis

List of Elective Courses

Sr No	Course Code	Course Title	Credit Hours
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1.	IRS 753	Seminar on Contemporary World Affairs	3
2.	IRS 754	Global Perspectives on Ethnic Conflict	3
3.	IRS 755	Power Politics and Beyond: emerging Paradigm	3
4.	IRS 756	Gulf War and its Enduring Significance	3
5.	IRS 757	Future Trends in International Relations	3
6.	IRS 758	SAPs: The Triad of IMF, World Bank and WTO)	3
7.	IRS 759	Non-State Actors in Contemporary International Relations	3
8.	IRS 760	From Classical to Modern: The Evolution of International Political Philosophy	3
9.	IRS 761	Contemporary Politics of South Asia	3
10.	IRS 762	Contemporary Politics of Middle East	3
11.	IRS 763	International Law & Use of Force in Contemporary World	3
12.	IRS 764	Trends and Challenges in Modern International Law	3
13.	IRS 765	Understanding Foreign Policy: Comparative Analysis of Major Powers	3
14.	IRS 766	Foreign Policy Analysis: Theoretical Foundations and Applications	3
15.	IRS 767	The Influence of International Financial Institutions on World Politics	3
16.	IRS 768	Pakistan's Foreign Policy Analysis	3
17.	IRS 769	Understanding Politics and Security of Asia- Pacific Region	3
18.	IRS 770	Contemporary Challenges to National Security in Pakistan	3
19.	IRS 771	Environmental Concerns in the Modern World	3
20.	IRS 772	Contemporary Challenges in the Muslim World	3
21.	IRS 773	South Asian Geopolitics: Dynamics of Conflict and Cooperation	3
22.	IRS 774	Post- Conflict Peace Building: Strategies and Challenges	3
23.	IRS 775	Global Institutions and International Cooperation	3
24.	IRS 776	Understanding Power Sharing in Multi-ethnic Societies	3
25.	IRS 777	Advanced Course on Arms Control and International Society	3
26.	IRS 778	Contemporary Trends in Politics of Human Rights	3
27.	IRS 779	Key Trends in Modern Political Theory	3
28.	IRS 780	Dynamics of Central Asia in World Politics	3

Master Studies in English (Linguistics)

Program Title: MS (English Linguistics)
Duration: 2 Years (4 Semesters)

Eligibility Criteria: Sixteen years of schooling or 4 year education (minimum 120 credit hours) after HSSC/F.A./F.Sc/Grade 12 or equivalent shall be required for admission in the MS (Linguistics) program. Deficiency courses will be offered for students from other disciplines.

ROADMAP

1st Semester

Course Codes	Course Title	Category	CH	SGDS
ENG 706	Advanced Research Methods in English Studies	M	3	4
ENG 707	Theoretical Perspectives in English Studies	M	3	4
-	Elective-I	E	3	4
-	Elective-II	E	3	4
ISL 203	Fehm-e-Quran-I	G	1 CrH 3 Contact	4
Total Credit Hours			13	

2nd Semester

Course Codes	Course Title	Category	CH	SGDS
	Elective-III	E	3	4
	Elective-IV	E	3	4
	Elective-V	E	3	4
	Elective-VI	E	3	4
ISL 204	Fehm-e-Quran-II	G	1 CrH 3 Contact Hours	4
Total Credit Hours			13	

3rd Semester

Codes	Courses	Category	CH	SGDS
THS 799	Thesis	M	3	4
Total Credit Hours				

4th Semester

Codes	Courses	Category	CH	SGDS
THS 799	Thesis	M	3	4
Total Credit Hours			3	

LIST OF ELECTIVE COURSES FOR MS in English (LINGUISTICS)

Course Codes	Course Title	CH	SGDs
ENG 711	Corpus Linguistics for Language Research	3	4
ENG 712	Stylistics for Writers and Editors	3	4
ENG 713	Language in the Digital Age	3	4
ENG 714	Systemic Functional Linguistics for Language Research	3	4
ENG 715	Language Culture and Communication	3	4
ENG 716	Language Program Evaluation and Assessment	3	4
ENG 717	Advanced Cognitive Linguistics	3	4
ENG 718	Sociolinguistics for Language Research	3	4
ENG 719	English Around the World	3	4
ENG 720	Applied Linguistics for Language Professionals	3	4
ENG 704	Critical Discourse Analysis	3	
ENG 705	Emerging Perspectives in Linguistics	3	
ENG 721	ELT in 21 st Century	3	4

LIST OF DEFICIENCY COURSES

Course Code	Course Title	CH	SGDS
ENG 414	Introduction to Applied Linguistics	3	4
ENG 312	Discourse analysis	3	4
ENG 210	Semantics	3	4
ENG 405	Stylistics	3	4

General Education Courses

Sr#	Course Category	Course Title	Credit Hours
1	Arts & Humanities	1. French Language 2. Russian Language 3. Arabic Language 4. German Language 5. Chinese Language 6. Spanish Language 7. Turkish Language 8. Physical Education & Sports	2
2	Social Sciences	1. Fundamentals of International Relations 2. Fundamentals of Development Studies 3. Introduction to Psychology	2

*Non-Muslim Students will study General course having 2 Credit Hours (3 Contact Hours) in lieu of Fehmul Quranl & II

PhD in International Relations

Program Title: PhD International Relations

Duration: 3 Years

Eligibility Criteria: 18 year of education (MS/MPhil/equivalent degree) in relevant discipline from an HEC recognized university with a minimum CGPA of 3.00/4.00 (Semester System) or 60% marks (Annual System). NTS-GAT (General) or GRE (General) Test passed with minimum 60% marks or BU Admission Test (60% passing marks). Initial Research Proposal/Statement of Purpose is required at the time of PhD admission.

Roadmap of PhD International Relations

Semester 1

S.#	Course Code	Course Title	Credit Hours
1	IRS 801	Contemporary Theory and Practice in International Relations	3
2	IRS 802	Contemporary Research Methods	3
3		Elective I	3

Semester 2

S.#	Course Code	Course Title	Credit Hours
1		Elective II	3
2		Elective III	3
3		Elective IV	3

Semester 3

S.#	Course Code	Course Title	Credit Hours
1	THS 800	Thesis	09

Semester 4

S.#	Course Code	Course Title	Credit Hours
1	THS 800	Thesis	09

Semester 5

S.#	Course Code	Course Title	Credit Hours
1	THS 800	Thesis	09

Semester 6

S.#	Course Code	Course Title	Credit Hours
1	THS 800	Thesis	09

List of Electives Courses

S.#	Course Code	Course Title	Credit Hours
1.	IRS-803	Comparative Politics: Theoretical understanding	3
2.	IRS-804	Seminar on Major Contemporary Issues in International Politics	3
3.	IRS-805	International Relations of South Asia	3
4.	IRS-806	International Politics of Middle East	3
5.	IRS-807	The Significance of South East Asia in Global Politics	3
6.	IRS-808	International Politics of Central Asia	3
7.	IRS-810	Latin America in World Politics	3
8.	IRS-811	The Significance of Africa in Global Politics	3
9.	IRS-812	The Challenges and Prospects for the Contemporary Muslim World	3
10.	IRS-813	Foreign Policies of Major Powers in Comparative Perspective	3
11.	IRS-814	Understanding the US Politics and Foreign Policy	3
12.	IRS-815	Advance course of Politics and Foreign Policy of China	3
13.	IRS-816	Dynamics of Russian Geopolitics and Diplomacy	3
14.	IRS-817	Understanding International Law and Organization	3
15.	IRS-818	Understanding Regionalism: Theory and Practice	3
16.	IRS-819	Global Political Economy	3
17.	IRS-820	Contemporary Approaches of Strategic Studies	3
18.	IRS-821	Advanced Nuclear Studies	3
19.	IRS-822	Contemporary approaches to understand Conflict Resolution	3
20.	IRS-823	Mass Media and International Relations	3
21.	IRS-824	Advanced Critical Debates in International Relations	
22.	IRS-825	Major Approaches and models in Pakistan's Foreign Policy: Seminar Course	
23.	IRS-826	Global Environmental Politics	
24.	IRS-827	Globalization the Role of Contemporary State and Society	
25.	IRS-828	Securitization of International Relations	
26.	IRS-829	Understanding the Dynamics of Modern Diplomacy	
27.	IRS-830	Climate Change Activism, Sustainability and International Security	
28.	IRS-831	Politics of Refugees and Immigration in International Relations	
29.	IRS-832	Strategizing Indian Ocean	
30.	IRS-833	Models of Foreign Policy Analysis	

List of Deficiency Courses

S.#	Course Code	Course Title	Credit Hours
1.	IRS-702	Advanced Research Methodology	3
2.	IRS-700	International Relations: Advanced Theory and Practice	3

MS Islamic Studies (Islam & Life)

Program Title: MS Islamic Studies (Islam & Life)

Duration: 2 Years (4 Semesters)

Eligibility Criteria: 4 years Bachelor degree in BS (Islamic Studies)/ M.A (Islamic Studies) or equivalent with minimum 126 Credit Hours and CGPA 2.0/4.0 (Semester System) or 50% marks (Annual System). NTS-GAT (General) or GRE passed with 50% marks.

S. N.	Course Code	Course	Credit Hours	Category	SDGs Alignments
1	ISL 701	Advance Research Methodology	3	Core	4, 9, 16
2	ISL 723	Ijtihad: History, Principles and Methods	3	Core	4, 10, 16
3	ISL 203	Fahm-e-Quran I ¹	1 CrH 3 Contact Hours	General	4
4		Elective -I	3	Elective	
5		Elective-II	3	Elective	
	Total		13		

Semester - 2

S. N.	Course Code	Course	Credit Hours	Category	SDGs Alignments
1	ISL 703	Orientalism: Critical Study	3	Core	4, 10, 16
2	ISL 204	Fahm -e- Quran II ²	1 CrH 3 Contact Hours	Core	4
3		Elective-III	3	Elective	
4		Elective-IV	3	Elective	
5		Elective-V	3	Elective	
	Total		13		

Semester - 3

S. N.	Course Code	Course	Credit Hours	Category	SDGs Alignments
1	THS 799	Thesis	3		4,9,10,16
	Total		3		

Semester - 4

S. N.	Course Code	Course	Credit Hours	Category	SDGs Alignments
1	THS 799	Thesis	3		4,9,10,16
	Total		3		

List of Core Courses:

S. N.	Course Code	Course	Credit Hours	Category	SDGs Alignments
1	ISL 701	Advance Research Methodology	3	Core	4, 9, 16
2	ISL 723	Ijtihad: History, Principles and Methods	3	Core	4, 10, 16
3	ISL 703	Orientalism: Critical Study	3	Core	4, 10, 16

List of Elective Courses:

S. N.	Course Code	Course	Credit Hours	Category	SDGs Alignments
1.	ISL 722	Study of Quran and It's Sciences	3	Elective/Major	4,16
2.	ISL 705	Study of Hadith and Its Sciences	3	Elective/Major	4, 16
3.	ISL 706	Study of Seerah	3	Elective/Major	5, 16
4.	ISL 730	Study of Fiqh and Usool ul Fiqh	3	Elective/Major	16, 10
5.	ISL 747	Arabic Language	3	Elective/Major	4
6.	ISL 748	Study of World Religion	3	Elective/Major	16, 10
7.	ISL 749	Islamic Civilization and Modern Challenges	3	Elective/Major	9,16
8.	ISL 726	Islamic Economic System	3	Elective/Major	8, 1
9.	ISL 751	Study of Tassawuf	3	Elective/Major	3, 16
10.	ISL 752	Human Rights and Islam	3	Elective/Major	5, 16
11.	ISL 705	Islamic Art and Modernity	3	Elective/Major	10,16
12.	ISL 711	Usool Wa Adab Ul Ikhtilaf	3	Elective/Major	4,16
13.	ISL 712	Jurisprudence of Seerah	3	Elective/Major	5, 16
14.	ISL 715	Methodologies of the Muhaddithin	3	Elective/Major	4, 16
15.	ISL 717	Tafseer and Its Trends	3	Elective/Major	4,16
16.	ISL 704	Islamic Economic System & Banking	3	Elective/Major	4,16
17.	ISL 721	Muslim History of Maritime	3	Elective/ Major	14

List of General Courses:

1	ISL 203	Fahm -e- Quran I ³	1 CrH 3 Contact Hours	General	4
2	ISL 204	Fahm -e- Quran II	1 CrH 3 Contact Hours	General	4

PhD Islamic Studies

Program Title: PhD in Islamic Studies

Duration: 3 Years

Eligibility Criteria: 18 year of education (MS/MPhil/equivalent degree) in relevant discipline from an HEC recognized university with a minimum CGPA of 3.00/4.00 (Semester System) or 60% marks (Annual System).

Semester-wise Road map

Semester 1

S.#	Course Code	Course Title	Credit Hours
1	ISL 801	Uloom UI Quran & modern exegesis trends	3
2	ISL 802	Modern Research Techniques and Principles	3
3		Elective 1	3

Semester 2

S.#	Course Code	Course Title	Credit Hours
1	ISL 803	Applied Study of Ahadith-UI-Ahkam	3
2		Elective 2	3
3		Elective 2	3

Semester 3

S.#	Course Code	Course Title	Credit Hours
1	THS 900	Thesis	9

Semester 4

S.#	Course Code	Course Title	Credit Hours
1	THS 900	Thesis	9

Semester 5

S.#	Course Code	Course Title	Credit Hours
1	THS 900	Thesis	9

Semester 6

S.#	Course Code	Course Title	Credit Hours
1	THS 900	Thesis	9

List of Electives Courses

Course Code	Course Title	Credit Hours
ISL 804	Applied Study of Ayat-UI-Ahkam	3
ISL 805	Ijtihad and Objectives of Shariah	3
ISL 806	Family and Inheritance Law in Islam	3
ISL 807	Contemporary Islamic Thought	3
ISL 808	Islam and the Modern Political System	3
ISL 809	Muslim Philosophers and Theologists	3
ISL 810	Islamic and Religious Pluralism	3
ISL 811	Islamic Financial System	3
ISL 812	Seminars on Interdisciplinary Studies in Science, Philosophy, and Religion	3
ISL 813	Understanding Seerah Trends	3
ISL 814	Interfaith Dialogue and Islamic Principles of Adb ul Ikhtelaf	3
ISL 815	Uloom ul Hadith & Methodologies of Muhaddiseen	3
ISL 816	Islamic Perspectives on Globalization in the Modern World	3

List of Deficiency Courses

Course Code	Course Title	Credit Hours
ISL 801	Uloom UI Quran & modern exegesis trends	3
ISL 803	Applied Study of Ahadith-UI-Ahkam	3

LLB

Program Title: LLB

Duration: Five Years (Ten Semesters)

Eligibility Criteria: Candidates having passed Intermediates/A level or equivalent examination with 50% marks moreover cleared Law Admission Test (LAT) with 50% marks are eligible for admission however, those aspirants who are not appeared in LAT yet are also eligible to apply for admission but they have to submit result later with the required percentage, in other case admission will be cancelled.

Semester-wise Road map

Semester 1

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1		QUR 111	Quantitative Reasoning-I*	3	General	4
2		ENG 101	Functional English*	3	General	4,17
3		ICT 201	Applications of Information and Communication Technologies*	3	General	4,11
4		LLB 131	Introduction to Law and Legal Systems	3	Major	1,2,4,12
5		PAK 105	Pakistan Studies*	2	General	4,8,10,16
6			IDS-I	3	Interdisciplinary	4,9,17
7		ISL 107	Tajweed		General	4
Total credit hours				17		

Semester 2

S.No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1		QUR 112	Quantitative Reasoning-II*	3	General	4
2			Social Science **	2	General	17
3		ENG 123	Expository Writing**	3	General	4,13,14,15
4			Natural Science** (Environmental Sciences & Law)	3	General	4,11,16
5		LLB 214	Law of Torts	3	Major	4,16
6		ISL 203	Fehmul Quran- I (for Muslim Students)	1	General	4, 17
7		LLB 220	Criminal Law	3	Major	16
Total Credit Hours 18						

Semester 3

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1		HSS 217	Arts and Humanities**	2	General	4
2		LLB 122	Islamic Studies (Religious Education / Ethics for non-Muslim students) *	2	General	4
3		ISL 204	Fehmul Quran– II (for Muslim Students)	1	General	4
4		LLB 222	Law of Contract	3	Major	4, 16
5		LLB 225	Jurisprudence	3	Major	4,16
6		LLB 228	Principles of Constitutional Law	3	Major	4,16
7			IDS-II	3	Interdisciplinary	4
Total Credit Hours				17		

Semester 4

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1		HSS 219	Civics and Community Engagement*	2	General	4
2		LLB 229	Constitutional Law of Pakistan Ideology and Constitution of Pakistan)	3	General	6,10,11
3		HSS 423	Entrepreneurship*	2	General	1-13, 15-17
4		LLB 230	Equity, Trusts and Specific Relief	3	Major	4,10,11,16,17
5		LLB 231	Legal Ethics and Moot Cases	3	Major	4
6		LLB 001	Alternate Dispute Resolution (ADR)	3	Interdisciplinary	4
7		LLB 232	Islamic Jurisprudence	3	Major	4
Total Credit Hours				19		

Semester 5

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1		LLB 313	Islamic Personal Law-I	3	Major	4
2		LLB 312	Law of Business Organizations -I	3	Major	4, 16
3		LLB 315	Law of Evidence	3	Major	4,10,11,16,17
4		LLB 318	Administrative and Services Law	3	Major	4,16
5		LLB 327	Land Law	3	Major	11, 16
6		LLB 319	Cyber Law	3	Major	16
Total Credit Hours				18		

Semester 6

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1		LLB 323	Islamic Personal Law- II	3	Major	4
2		LLB 340	Law of Business Organizations -II	3	Major	4,16
3		LLB 341	Legal Drafting and Pleadings	3	Major	4,9,16
4		LLB 660	International Law	3	Major	4,16
5			Elective-I***	3	Major	11,16
6			Elective-II	3	Major	16
Total Credit Hours				18		

Semester 7

Sr. No	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1		LLB 317	Law of property	3	Major	4,16
2		LLB 414	Criminal Procedure Code-I	3	Major	4,10,11,16,17
3		LLB 413	Civil Procedure Code-I	3	Major	4,10,11,16,17
4		LLB 516	Research Methodology	3	Interdisciplinary	16
5			Elective-III***	3	Major	16
6			Elective-IV***	3	Major	16
7		ISL 113	Seerah - I	0	Compulsory	4
Total Credit Hours				18		

Semester 8

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1		LLB 424	Criminal Procedure Code-II	3	Major	4
2		LLB 423	Civil Procedure Code-II	3	Major	4,10,11,16,17
3		LLB 008	Environmental Law	3	Major	4, 16
4			Elective-V***	3	Major	16
5			Elective-VI***	3	Major	16
6		RGS 490	Capstone Project	3	Capstone Project	16
7		ISL 114	Seerah - II	0	Compulsory	4
Total Credit Hours				18		

Note:

(I) Internships of three (03) credit hours must be completed in accordance with HEC Undergraduate Education Policy V 1.1. This requirement cannot be substituted with additional coursework, capstone, research, or project work.

* The university may use HEC-designed model courses.

** The university/offering department may offer any course within the broader subject domain/cluster to meet the given credits.

*** The university/offering department may offer any advanced course in LLB as an elective based on available academic and physical resources, depending on its geographical location and the programme learning objectives.

(II) Non-Muslim students shall opt for a two-credit hour course from interdisciplinary courses as a substitute requirement for Fehmul Qurancourses compulsory for Muslim students.

List of Elective Courses

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	Category	17 UN SDGs alignment
TECHNOLOGY & LAW						
1.		LLB 601	Data Protection & Privacy Law	3	Major	
2.		LLB 602	Artificial Intelligence and Law	3	Major	
3.		LLB 603	Digital Forensics and Electronic Evidence	3	Major	

5.		LLB 605	Intellectual Property in the Digital Age	3	Major	
6.		LLB 031	Telecommunication Law	3	Major	
7.		LLB 643	Legal Tech and Law Practice Automation	3	Major	
8.		LLB 606	FinTech and Law	3	Major	
9.		LLB 022	Media Law	3	Major	
BUSINESS & COMMERCIAL LAW						
1.		LLB 607	Corporate Law Mergers and Acquisitions	3.	Major	
2.		LLB 644	Corporate Law Mergers and Acquisitions	3	Major	
3.		LLB 608	Banking, Securities & Capital Markets Regulation	3	Major	
4.		LLB 010	Insurance Law	3	Major	
5.		LLB 030	Taxation Law	3	Major	
6.		LLB 645	Custom and Tariff Laws	3	Major	
7.		LLB 609	International Trade Law & E-commerce	3	Major	
8.		LLB 610	Start-up Law & Legal Compliance	3	Major	
9.		LLB 611	Competition & Consumer Law	3	Major	
10.		LLB 004	Consumer Protection Law	3	Major	
11.		LLB 016	Islamic Commercial Law	3	Major	
12.		LLB 011	Intellectual Property Law	3	Major	
13.		LLB 015	International Trade Law	3	Major	
14.		LLB 012	International Economic Law	3	Major	
HUMAN RIGHTS & SOCIAL JUSTICE						
1.		LLB 612	International Human Rights Law	3	Major	
2.		LLB 613	Refugee and Migration Law	3	Major	
3.		LLB 614	Gender Justice and Law	3	Major	
4.		LLB 615	Disability Rights Law	3	Major	
5.		LLB 616	Law and Social Movements	3	Major	
6.		LLB 017	Labour Law	3	Major	
7.		LLB 026	Public Interest Litigation	3	Major	
8.		LLB 617	Law and Society	3	Major	
9.		LLB 013	International Humanitarian Law (IHL)	3	Major	
10.		LLB 618	Juvenile and Social Justice Law	3	Major	
Environment & Climate Justice						
1.		LLB 646	Climate Change Law	3	Major	
2.		LLB 619	Sustainable Development & Environmental Justice	3	Major	
3.		LLB 620	Water Law and Policy	3	Major	
4.		LLB 621	Energy Law	3	Major	
5.		LLB 622	Environmental Governance and Policy	3	Major	
6.		LLB 623	Law of the Sea and Ocean Governance	3	Major	
7.		LLB 624	Disaster Law and Climate Resilience	3	Major	
Constitutional Law and Governance						
1.		LLB 625	Comparative Constitutional Law	3	Major	
2.		LLB 626	Law and Public Policy	3	Major	
3.		LLB 627	Transitional Justice	3	Major	
4.		LLB 007	Election Law	3	Major	

5.		LLB 628	Immigration and Nationality Law	3	Major	
6.		LLB 629	Decentralization and Federalism Law	3	Major	
Legal Ethics & Skills						
1.		LLB 630	Legal Writing and Research in the Digital Era	3	Major	
2.		LLB 631	Legal Clinics	3	Major	
3.		LLB 632	Professional Ethics (including Technology Focus)	3	Major	
4.		LLB 633	Mooting, Advocacy, and Drafting (Practical Modules)	3	Major	
5.		LLB 634	Corporate Compliance and Ethics	3	Major	
6.		LLB 647	Publication Ethics	3	Major	
7.		LLB 635	Ethics in ADR and Litigation	3	Major	
Emerging and Specialized Legal Fields / Niche and Frontier Areas of Law						
1.		LLB 636	Space Law	3	Major	
2.		LLB 637	Sports Law	3	Major	
3.		LLB 638	Biotechnology and Law	3	Major	
4.		LLB 648	Health Law & Bioethics	3	Major	
5.		LLB 023	Medical and Forensic Law	3	Major	
6.		LLB 639	Law and Development	3	Major	
7.		LLB 640	Maritime, Shipping, and Admiralty Law	3	Major	

RECOMMENDED LIST OF INTERDISCIPLINARY COURSES:

Students may opt interdisciplinary courses from the following list where required in the scheme of studies for LLB programme, to complement their holistic understanding of the major, provided that the same is allowed by the admitting department. The list provided here is a recommended one only, and the offering department may add more courses as and when needed, provided that the same is approved by the university's relevant statutory body.

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	Category	17 UN SDGs alignment
1.		ECO 520	Economics	3	Interdisciplinary	
2.		HSS 201	Sociology	3	Interdisciplinary	
3.		HSS 170	Political Science	3---2	Interdisciplinary	
4.		ANT 230	Gender Studies	3	Interdisciplinary	
5.		LLB 641	Media	3	Interdisciplinary	
6.		LLB 642	Public Policy	3	Interdisciplinary	
7.		HSS 150	History	3	Interdisciplinary	
8.		LLB 001	Alternative Dispute Resolution (ADR) – Mandatory as recommended by NCRC	3	Interdisciplinary	

LLM General

Program Title: LLM General
Duration: Two Years (Four Semesters)
Eligibility Criteria: LL.B degree from Pakistan Bar Council (PBC)/ HEC recognized university/institute with minimum CGPA of 2.00/4.00 or 50% marks where CGPA is not given.

Semester-wise Road map

Semester 1

Sr.No.	Course Code	Course Title	Credit Hours
1	LLM 700	Research Methodology	3
2	LLM---	Elective - I	3
3	LLM---	Elective - II	3
4	LLM---	Elective - III	3
5	LLB 115	Introduction to Law (Deficiency Course)	3
6	LLB 124	Legal System of Pakistan (Deficiency Course)	3

Semester 2

Sr.No	Course Code	Course Title	Credit Hours
1	LLM---	Elective - IV	3
2	LLM---	Elective – V	3
3	LLM---	Elective - VI	3
4	LLM---	Elective - VII	3
5	LLB 417	Constitutional Developments in Pakistan (Deficiency Course)	3

Semester 3

Sr.No.	Course Code	Course Title	Credit Hours
1	THS 701	Thesis	3

Semester 4

Sr.No.	Course Code	Course Title	Credit Hours
1	THS 701	Thesis	3

List of Elective Courses

Sr.No	Course Code	Course Title	Credit Hours
1	LLM 701	ADMINISTRATIVE LAW	3
2	LLM 702	ALTERNATE DISPUTE RESOLUTION	3
3	LLM 703	BANKING LAW	3
4	LLM 704	COMMERCIAL/ BUSINESS LAW	3
5	LLM 705	COMPANY/ CORPORATE LAW	3
6	LLM 706	COMPARATIVE CONSTITUTIONAL LAW	3
7	LLM 707	COMPARATIVE ENVIRONMENTAL LAW	3
8	LLM 708	COMPARATIVE HUMAN RIGHTS LAW	3
9	LLM 709	COMPARATIVE STUDY OF ISLAMIC AND WETERN JURISPRUDENCE	3
10	LLM 710	CONSTITUTIONAL LAW OF PAKISTAN	3
11	LLM 711	CRIMINOLOGY	3
12	LLM 712	INTELLECTUAL PROPERTY LAWS	3
13	LLM 713	INTERNATIONAL ECONOMIC LAW	3
14	LLM 714	INTERNATIONAL TRADE LAW	3
15	LLM 715	ISLAMIC LAW	3
16	LLM 716	LABOUR LAW	3
17	LLM 717	LAW AND POLITICS	3
18	LLM 718	LAW AND SOCIETY IN SOUTH ASIA	3
19	LLM 719	LAW OF EVIDENCE	3
20	LLM 720	LAW OF INTERNATIONAL INSTITUTIONS	3
21	LLM 721	LAW OF TAXATION	3
22	LLM 722	LEGAL HISTORY OF PAKISTAN AND INDIA	3
23	LLM 723	SHIPPING LAW	3
24	LLM 724	WESTERN JURISPRUDENCE AND LEGAL THEORY	3
25	LAW 756	ISLAMIC FAMILY LAWS	3
26	LLM 757	BUSINESS ETHICS AND HUMAN RIGHTS	3

PhD Law Programme

Program Title: PhD Law

Duration: Three – Eight Years

Eligibility Criteria: 18 years of education (MS/MPhil/equivalent degree) in relevant discipline from an HEC recognized university with a minimum CGPA of 3.00/4.00 (Semester System) or 60% marks (Annual System). NTS-GAT (General) or GRE (General) Test passed with minimum 60% marks or BU Admission Test (60% passing marks). Initial Research Proposal/Statement of Purpose is required at the time of PhD admission.

Semester-wise Road map

Semester 1

S.No	Course Code	Course Title	Credit Hours
1	LLP 801	Advanced Research Methods in Law	3
2	LLP ---	Elective - I	3
3	LLP ---	Elective - II	3
4	LLM 710	Constitutional Law of Pakistan (Deficiency Course)	3
5	LLM 709	Comparative Study of Islamic and Western Jurisprudence (Deficiency Course)	3

Semester 2

S.No	Course Code	Course Title	Credit Hours
1	LLP---	Elective - III	3
2	LLP---	Elective - IV	3
3	LLP---	Elective - V	3
4	LLM 720	Law of International Institutions (Deficiency Course)	3

Semester 3

S.No	Course Code	Course Title	Credit Hours
1		Comprehensive Exam	0

Semester 4

Sr. No.	Course Code	Course Title	Credit Hours
1		Research Proposal	0

Semester 5

S.No	Course Code	Course Title	Credit Hours
1	THS 900	Thesis	9

Semester 6

S.No	Course Code	Course Title	Credit Hours
1	THS 900	Thesis	9

Semester 7

S.No	Course Code	Course Title	Credit Hours
1	THS 900	Thesis	9

Semester 8

S.No	Course Code	Course Title	Credit Hours
1	THS 900	Thesis	9

List of Electives Courses

Sr.No	Course Code	Course Title	Credit Hours
1	LLP 802	Legal History of the Subcontinent	3
2	LLP 803	Comparative Legal Theory/Philosophy	3
3	LLP 804	Law and Governance: Institutional Framework	3
4	LLP 805	Comparative Legal System and Procedure	3
5	LLP 806	Transformation of Sharia into Law: The Modern Application of Sharia	3
6	LLP 808	Technological Advancement in Law	3
7	LLP 809	Law and Regional Integration: With Focus On CPEC	3
8	LLP 810	Comparative Criminal Justice System	3
9	LLP 811	Comparative Human Rights Law	3

List of Deficiency Courses

S.No	Course Code	Course Title	Credit Hours
1	LLM 710	Constitutional Law of Pakistan (Deficiency Course)	3
2	LLM 709	Comparative Study of Islamic and Western Jurisprudence (Deficiency Course)	3
3	LLM 720	Law of International Institutions (Deficiency Course)	3

BS (Accounting and Finance)

Program Title: BS (Accounting and Finance)
Duration: 4 Years Total
Eligibility Criteria: Intermediate or its equivalent with a minimum of 50% marks in any discipline.

Roadmap of BS A&F

Semester 1

Sr. No	Course Code	Course Title	Credit Hours
1	ENG 101	Functional English	3
2	QTM 122	Business Mathematics & Numeracy Skills	
3	ECO 110	Microeconomics	3
4	PAK 109	Ideology of Pakistan	2
5	ACC 101	Principles of Accounting	3
6	ISL 101/ SOC 360	Islamic Studies/ Ethics	
	ISL 107	Tajweed	0

Semester 2

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		MIS-210	Introduction to Information Technology	3
2		ENG 102	English Writing Skills	3
3		HSS 219	Civic and Community Engagement	2
4		ECO 121	Macroeconomics	3
5	ACC 101	ACC 102	Financial Accounting	3
6		MGT-111	Principles of Management	3
		ISL 203	*Fehm-e-Quran – I	1

***For non-Muslim:** Any University approved 02 (or more) credit hours of Interdisciplinary Course

Semester 3

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		MKT 110	Principles of Marketing	3

2		ENV 120	Introduction to Environment and Sustainability	3
3		ACC 203	Cost Accounting	3
4		FIN 201	Introduction to Finance	3
5		QTM 110	Business Statistics	3
6		SOC 212	Critical and Logical Thinking	3

Semester 4

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		MGT 242	Organizational Behavior	3
2		MGT 363	Entrepreneurship	3
3		PAK 101	Pakistan Studies	2
4	ACC 203	ACC 304	Managerial Accounting	3
5		HSS-301	Social and Psychological Development	3
6	Fin 201	FIN 202	Financial Management	3
7		ISL 204	Fehm-e-Quran – II	1

***For non-Muslim:** Any University approved 02 (or more) credit hours of Interdisciplinary Course

Semester 5

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		ACC 400	Advanced Managerial Accounting	3
2		ACC 305	Financial Reporting-I	3
3		ACC 306	Principles of Auditing	3
4		ACC 220	Principles of Taxation	3
5		FIN 306	Financial Modeling	3
6		MGT 301	Business Law	3

Semester 6

Sr. No.	Pre-requisite	Course Code	Course Title	Credit Hours
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	Course Code			
1		FIN 320	Financial Institution Management	3
2		FIN 308	Corporate Finance	3
3		ENG 214	Business Communication	3
4	ACC 305	ACC 320	Financial Reporting-II	3
5		Fin 311	Introduction to Islamic Banking and Finance	3
6		RMT 240	Research Methods & Techniques	3

Semester 7

S.#	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1	ACC 220	ACC 410	Advanced Taxation	3
2	ACC 306	ACC 412	Advanced Auditing	3
3		HRM-353	Human Resource Management	3
4		MGT 503	Corporate law	3
5			Specialization-I	3
6			Specialization-II	3
7		ISL 113	Seerah-I	0

Semester 8

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1	RMT 240	PRO 450	Capstone Project/Thesis	3
2			Specialization-III	3
3			Specialization-IV	3
4		ECO 415	Econometrics	3
5		ISL 114	Seerah-II	0

Field Experience / Internship

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		SDW 498	Field Experience / Internship*	3
Total Credit Hours				3

- 6 weeks Internship after 4th Semester in the Summer semester, preferably.
- Honors, Awards, & scholarships will be calculated on the basis of coursework only, excluding internship credit hours.
- The Quran and Seerah program is optional for Non-Muslim students.

List of Elective Courses

Course Code	Course Title	Category	Credit Hours
ACC623	Corporate Governance	Elective	3
ACC 624	Accounting Information System With SAP	Elective	3
ACC625	Mercantile Law	Elective	3
ACC626	Advance IT	Elective	3
ACC 627	Strategic Management Accounting and Control	Elective	3
ACC 628	Tax Management and Optimization	Elective	3
ACC 629	Actuarial Accounting	Elective	3
ACC 631	Merger and Acquisition Accounting	Elective	3
ACC 607	Advance Financial Reporting	Elective	3
FIN646	Financial Econometrics	Elective	3
FIN647	Financial Restructuring	Elective	3
FIN619	Financial Derivatives	Elective	3
FIN648	International Finance	Elective	3
FIN649	Islamic Banking and Finance	Elective	3
FIN650	Analysis of Financial Time Series	Elective	3
FIN651	Financial Information System	Elective	3
FIN613	Portfolio Analysis and Management	Elective	3
FIN618	Treasury and Funds Management	Elective	3
FIN603	Entrepreneurial Finance	Elective	3
FIN621	Budgeting	Elective	3
FIN612	Analysis of Financial Statements	Elective	3
FIN660	Branch and Branchless Banking	Elective	3

FIN652	Lending- Products, Operationand Risk Management	Elective	3
FIN653	Finance of International Trade	Elective	3
FIN654	Marketing of Financial Services	Elective	3
FIN655	Information Technology in Financial Services	Elective	3
FIN617	Investment Banking	Elective	3
FIN 615	Commercial Banking	Elective	3
FIN685	Business Intelligence	Elective	3
FIN684	Financial Engineering	Elective	3
FIN 659	Advance Financial Management	Elective	3
FIN 523	FinTech	Elective	3
FIN 522	SAP- Financial Data Analytics	Elective	3
FIN 524	Shariah Standards for Islamic Financial Institutions (AAOIFI)	Elective	3
SFI 300	Introduction on to Sustainable Finance and Investments	Elective	3
MIS	Data, System and Risks	Elective	3
FIN	Block Chain & Financial Markets	Elective	3
ACC	Sustainability of Accountants	Elective	3
MGT	Contemporary Issues in Corporate Governance	Elective	3
MARITIME			
MTM 101	Introduction to Maritime Industry	Elective	3
MTM 230	Introduction to Maritime Law and International Maritime Convention	Elective	3
MTM202	Economics of Sea Transport & International Trade	Elective	3
MTM 222	Introduction to Coastal Zone Management	Elective	3
MTM 304	Port Operations and Management	Elective	3
MTM 306	Shipping Operations and Management	Elective	3
MTM 322	Fisheries Resources & Management	Elective	3
MTM 401	Coastal Eco-Tourism Development and Management	Elective	3
MTM 403	Maritime Innovation & Entrepreneurship	Elective	3
MTM 501	Maritime Business: China Pakistan Perspective under CPEC	Elective	3
MTM 521	Maritime Business and HRM	Elective	3
MTM 504	Maritime Management: Concept and Applications	Elective	3
MTM 505	Contemporary Issues of Maritime Management	Elective	3

MTM 506	Maritime Management in Pakistan: Past, Present and Future	Elective	3
HRM 508	Marine Environments and Administration	Elective	3
ECO- 363	Introduction to Blue and Green Economy	Elective	3

List of Social Sciences Courses

Course Code	Course Title	Credit Hours
HSS 109	Arabic	2
HSS 163	Chinese	2
HSS 160	French	2
HSS 164	German	2
HSS 161	Russian	2
HSS 162	Spanish	2
HSS 214	Turkish	2

BS Economics

Program Title: BS Economics

Duration: 4 years

Eligibility Criteria: Intermediate or its equivalent with a minimum of 50% marks in any discipline.

Roadmap of BS Economics

Semester 1

S.#	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		ENG 101	Functional English	3
2		QTM 101	Business Mathematics	3
3		ECO 110	Microeconomics- I	3
4		MIS 161	Introduction to IT	3
5		HSS 108	Introduction to Sociology	3
6		MGT 363	Entrepreneurship	3
		ISL 107	Tajweed	0

Semester 2

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		ISL 101	Islamic Studies	2
2		NEW	Introduction to Environment and sustainability	3
3		QTM 105	Introduction to Statistics	3
4		ECO 121	Macroeconomics-I	3
5		ECO 111	Microeconomics-II	3
6		HSS 107	Introduction to Psychology	2
		ISL 108	*Fehm ul Quran - I	1
Total Credit Hours				17

***For non-Muslim:** Any University approved 02 (or more) credit hours of Interdisciplinary Course

Semester 3

S.#	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		SOC 240	Pakistan Studies	2
2		ECO 304	Business Taxation and Public Finance	3
3		ECO 122	Macroeconomics-II	3

4		ECO 202	Issues in Pakistan's Economy	3
5		ENG 213	Oral Communication and Presentation Skills	3
6	QTM 105	QTM 232	Statistical Inference	3
7				

Semester 4

S.#	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		ECO 301	Fundamentals of Econometrics	3
2		New	Introduction to Financial Economics	3
3		PAK 109	Ideology and Constitution of Pakistan	2
4		MGT 211	Self-Management	3
5		ECO 340	Development Economics	3
6		HSS 219	Civics and Community Engagement	2
7		ISL 204	*Fehm ul Quran - II	1

***For non-Muslim:** Any University approved 02 (or more) credit hours of Interdisciplinary Course

Semester 5

S.#	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		ECO 306	International Economics & Finance	3
2		NEW	Data Science for Economists	3
3		NEW	Introduction to Blue and Green Economy	3
4		MGT 311	Career Exploring	3
5		ECO 309	Monetary Theory & Policy	3
6		ECO 362	Managerial Economics	3
7				

Semester 6

S.#	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		ECO 526	Sustainable Development and Economic Policy	3
2		HSS 301	Social and Psychological Development	3
3			Econometrics-II	3

4		ECO 508	Labor Economics	3
5		ECO 307	Money and Banking	3
6		Eco 506	Poverty and Income distribution	3

Semester 7

	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		ECO 403	Trade Policy	3
2		RMT 240	Research Methods & Techniques	3
3		ECO 502	Industrial Economics	3
4		ECO 510	Islamic Economics	3
5			Elective-I	3
6			Elective-II	3
7		ISL 113	Seerah-i	0

Semester 8

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
		MGT 463	Corporate Skills	3
			Elective -III	3
			Elective-IV	3
		PRO 450	Capstone Project / Thesis	3
		ISL 114	Seerah-ii	
			Internship	3

List of Elective Courses

Course Code	Course Title	Credit Hours	HEC Category	SDGs
ECO 536	Globalization and International Trade	3	Elective	
ECO 518	International Business Law	3	Elective	
ECO 537	International Financial Markets	3	Elective	
ECO 538	International Logistics and Transportation Management	3	Elective	
ECO 539	Foreign Trade and FDI Policies	3	Elective	
ECO 522	International Corporate Law	3	Elective	
ECO 523	Global Value chains (GVCs) for Trade	3	Elective	

ECO 524	World Trade Organization and Regional Trade Facilitation	3	Elective	
ECO 525	Asian transport corridors and Trade	3	Elective	
ECO 502	Industrial Economics	3	Elective	
ECO 503	Budgeting and Financial Planning	3	Elective	
ECO 504	Advanced Topics in Microeconomics	3	Elective	
ECO 505	Advanced Topics in Macroeconomics	3	Elective	
ECO 507	International Economics	3	Elective	
ECO 509	Investment Banking & Security Analysis	3	Elective	
ECO 513	Economics of Regulation and Competition Policy	3	Elective	

Maritime				
Course Code	Course	Cr Hr	HEC Category	SDG
MTM 101	Introduction to Maritime Industry	3	Electives	SDG 4
MTM 230	Introduction to Maritime Law and International Maritime Convention	3	Electives	SDG 16
MTM202	Economics of Sea Transport & International Trade	3	Electives	SDG 14
MTM 222	Introduction to Coastal Zone Management	3	Electives	SDG 14
MTM 304	Port Operations and Management	3	Electives	SDG 4
MTM 306	Shipping Operations and Management	3	Electives	SDG 4
MTM 322	Fisheries Resources & Management	3	Electives	SDG 14
MTM 401	Coastal Eco-Tourism Development and Management	3	Electives	SDG 14
MTM 403	Maritime Innovation & Entrepreneurship	3	Electives	SDG 9
MTM 501	Maritime Business: China Pakistan Perspective under CPEC	3	Electives	SDG 4
MTM 521	Maritime Business and HRM		Electives	SDG 10
MTM 504	Maritime Management: Concept and Applications	3	Electives	SDG 10
MTM 505	Contemporary Issues of Maritime Management	3	Electives	SDG 16
MTM 506	Maritime Management in Pakistan: Past, Present and Future	3	Electives	SDG 16
HRM 508	Marine Environments and Administration	3	Electives	SDG 13
ECO-363	Introduction to Blue and Green Economy	3	Electives	SDG 13

List of Social Sciences Courses

Course Code	Course Title	Credit Hours
HSS 109	Arabic	2
HSS 163	Chinese	2
HSS 160	French	2
HSS 164	German	2
HSS 161	Russian	2
HSS 162	Spanish	2
HSS 214	Turkish	2

BS (Supply Chain Management)

Program Title: BS (Supply Chain Management)

Duration: 4 Years Total

Eligibility Criteria: Intermediate or it's equivalent with a minimum of 50% marks in any discipline.

Semester 1

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		ENG 101	Functional English	3
2		QTM 122	Business Mathematics & Numeracy Skills	3
3		ECO 110	Microeconomics	3
4		PAK 109	Ideology and Constitution of Pakistan	2
5		ISL 101/ SOC 360	Islamic Studies/Ethics	2
6		MGT111	Principles of Management	3
		ISL 107	Tajweed	0

Semester 2

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		ENG 102	English Writing Skills	3
2		MIS 163	IT in SCM	3
3		HSS 219	Civic and Community Engagement	2
4		ACC 102	Financial Accounting	3
5		ECO 121	Macroeconomics	3
6		SCM 101	Introduction to SCM	3
		ISL 203	*Fehm-e-Quran – I	1
	Total Credit Hours			18

***For non-Muslim:** Any University approved 02 (or more) credit hours of Interdisciplinary Course

Semester 3

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		ENV 120	Introduction to Environment and Sustainability	3
2		QTM 110	Business Statistics	3

3		ACC 304	Managerial Accounting	3
4		SOC 212	Critical and Logical Thinking	3
5		MKT 110	Principles of Marketing	3
6		SCM 201	Introduction to Procurement Management	3
7		ISL 109	Understanding Quran – ii	0
	Total Credit Hours			18

Semester 4

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		MGT-363	Entrepreneurship	3
2		PAK 101	Pakistan Studies	2
3		FIN 220	Finance of SC Managers	3
4		SCM 301	Inventory and Warehouse Management	3
5		OPM 360	Operation and Production Management	3
6		HSS-301	Social and Psychological Development	3
		ISL 204	*Fehm-e-Quran – II	1
	Total Credit Hours			18

***For non-Muslim:** Any University approved 02 (or more) credit hours of Interdisciplinary Course

Semester 5

	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		MGT 311	Career Exploring Management	3
2		MGT 435	Project Management	3
3		MIS 310	SC Analytics and Information System	3
4		MGT 312	Quality Management and Lean Thinking	3
5		QTM 205	Statistical Inference and Quantitative Research	3

6		SCM 302	Supply Network Planning and Design	3
		ISL 111	Understanding Quran – iv	0

Semester 6

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		MGT 211	Self-Management (Shifted from S4)	3
2		SCM 320	Import Export Management	3
3		SCM 321	Multimodal Transport Management	3
4		SCM 402	Legal Aspects of Supply Chains	3
5		RMT 240	Research Methods & Techniques	3
6		SCM 323	Innovations in SC with Ecommerce	3
		ISL 112	Understanding Quran – v	0

Semester 7

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		SCM 401	Supply Chain Risk Management	3
2		RMT 360	Operations Research	3
3		HRM-353	Human Resource Management	3
4		SCM 421	Globalization and Outsourcing Strategies	3
5			Specialization-I	3
6			Specialization-II	3
		ISL 113	Seerah-I	0

Semester 8

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		MGT 463	Corporate Skills	3

2			Specialization-III	3
3			Specialization-IV	3
4	RMT 240	PRO 450	Capstone Project/Thesis	3
		ISL 114	Seerah – ii	0

Field Experience / Internship

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		SDW 498	Field Experience / Internship*	3

- 6 weeks Internship after 4th Semester in the Summer semester, preferably.
- Honors, Awards, & scholarships will be calculated on the basis of coursework only, excluding internship credit hours.
 - The Quran and Seerah program is optional for Non-Muslim students

List of Elective Courses

Course Code	Course Title	Credit Hours	Category
SCM 654	Management and Leadership	3	Elective
SCM 649	Contemporary Issues in Supply Chain Management	3	Elective
SCM 655	Customer and Supplier Relationship Management	3	Elective
SCM 648	Entrepreneurship in Supply Chain Management	3	Elective
SCM 647	ERP and SCM Systems	3	Elective
SCM 633	Master planning of Resources in SCM	3	Elective
SCM 617	Demand Forecasting	3	Elective
SCM 646	Business Process Reengineering	3	Elective
SCM 645	Contract Management	3	Elective
SCM 636	Green Supply Chain Management	3	Elective
SCM 652	Shipping, Freights and Port Operations	3	Elective
SCM 654	Management and Leadership	3	Elective
SCM 651	Humanitarian Logistics	3	Elective
SCM 649	Contemporary Issues in Supply Chain Management	3	Elective
SCM 648	Entrepreneurship in Supply Chain Management	3	Elective
SCM 647	ERP and SCM Systems	3	Elective
SCM 646	Business Process Reengineering	3	Elective

SCM 653	Health Safety Environment (HSE) in Warehouse	3	Elective
SCM 324	Supply Chain Performance Measurement	3	Elective
MTM 101	Introduction to Maritime Industry	3	Elective
MTM 230	Introduction to Maritime Law and International Maritime Convention	3	Elective
MTM 215	Economics of Sea Transport & International Trade	3	Elective
MTM 222	Introduction to Coastal Zone Management	3	Elective
MTM 304	Port Operations and Management	3	Elective
MTM 306	Shipping Operations and Management	3	Elective
MTM 322	Fisheries Resources & Management	3	Elective
MTM 401	Coastal Eco-Tourism Development and Management	3	Elective
MTM 403	Maritime Innovation & Entrepreneurship	3	Elective
MTM 526	Maritime Business: China Pakistan Perspective under CPEC	3	Elective
MTM 521	Maritime Business and HRM	3	Elective
MTM 527	Maritime Management: Concept and Applications	3	Elective
MTM 528	Contemporary Issues of Maritime Management	3	Elective
MTM 529	Maritime Management in Pakistan: Past, Present and Future	3	Elective
HRM 508	Marine Environments and Administration	3	Elective
ECO-363	Introduction to Blue and Green Economy	3	Elective

List of Social Sciences Courses

Course Code	Course Title	Credit Hours
HSS 109	Arabic	2
HSS 163	Chinese	2
HSS 160	French	2
HSS 164	German	2
HSS 161	Russian	2
HSS 162	Spanish	2
HSS 214	Turkish	2

BS (Business Analytics)

Program Title: BS (Business Analytics)

Duration: 4 Years Total

Credit Hours: Intermediate or its equivalent with a minimum of 50% marks in any discipline

Semester 1

Sr. No.	UN SDGs	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1	SDG 4		ENG 101	Functional English	3
2	SDG 4		QTM 122	Business Mathematics & Numeracy Skills	3
3	SDG 8		ECO 110	Microeconomics	3
4	SDG 16		PAK 109	Ideology and Constitution of Pakistan	2
5	SDG 4		MGT-111	Principles of Management	3
6	SDG 10		ISL 101/ SOC 360	Islamic Studies / Ethics	2
	SDG 4		ISL 107	Tajweed	0

Semester 2

Sr. No	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1	ENG 101	ENG 102	English Writing skills	3
2		MIS 161	IT in Business (word, excel)	3
3		HSS 219	Civic and Community Engagement	2
4		ECO 121	Macroeconomics	3
5		BUA 101	Programming Fundamentals	3
6		BUA-105	Introduction to Python Analytics	3
			* Fehm-e-Quran – I	1
Total Credit Hours				18

*For non-Muslim: Any University approved 02 (or more) credit hours of Interdisciplinary Course

Semester 3

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		ENV 120	Introduction to Environment and	3

			Sustainability	
2		QTM 110	Business Statistics	3
3		MKT 110	Principles of Marketing	3
4		ACC-110	Accounting for business Analytics	3
5		SOC 212	Critical and Logical Thinking	3
6	MIS-161	BUA-201	Fundamentals of Business Analytics	3

Semester 4

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		MGT-363	Entrepreneurship	3
2		BUA-202	Data Structure and Business Application	3
3	PAK 109	PAK 101	Pakistan Studies	2
4		CSC 412	Artificial Intelligence	3
5	QTM 122	GSC 121	Linear Algebra	3
6		HSS-301	Social and Psychological Development	3
			*Fehm-e-Quran – II	1

***For non-Muslim:** Any University approved 02 (or more) credit hours of Interdisciplinary Course

Semester 5

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1	QTM 110	QTM 204	Statistical Inference	3
2		CSC 419	Fundamentals of Machine Learning	3
3	ACC-110	FIN 201	Fundamentals of Finance	3
4		ECO 301	Fundamentals of Econometrics	3
5		BUA-302	Web Application Development	3
6		BUA-303	Digital Analytics	3
Total Credit Hours				18

Semester 6

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		RMT-240	Research Methods and	3

			Techniques	
2		SCM 306	Fundamentals of Operations and Supply Chain Management	3
3		BUA-304	Decision Science for Business	3
4		BUA-401	Legal and Ethical Issues in Business Analytics	3
5		CSC 452	Business Data and Text Mining	3
6		BUA-305	E-Commerce	3
		ISL 112		0

Semester 7

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1	MGT-111	MGT 435	Project Management	3
2		BUA-402	Predictive Analysis	3
3	MGT-111	HRM 353	Human Resource Management	3
4		BUA-403	Information Security and System Auditing	3
5			Specialization-I	3
6			Specialization-II	3
		ISL 113	Seerah-i	0

Semester 8

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		BUA 404	Data Management and Visualization	3
2			Specialization-III	3
3			Specialization-IV	3
4	RMT-240	PRO 450	Capstone Project/Thesis	3
5		ISL 114	Seerah-ii	0

Field Experience / Internship

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		SDW 498	Field Experience / Internship*	3

- 6 weeks Internship after 4th Semester in the Summer semester, preferably.
- Honors, Awards, & scholarships will be calculated on the basis of coursework only, excluding internship credit hours.
- The Quran and Seerah program is optional for Non-Muslim students.

ELECTIVES

Course Code	Course Title	Credit Hrs	Category	17 UN SDGs
CSC 521	Advanced Design and Analysis of Algorithm	3	Elective	SDG 12
CSC 444	Computer Graphics	3	Elective	SDG 8
CSC 341	Mobile Application Development	3	Elective	SDG 9
CSC 449	Neural Networks& Fuzzy Logic	3	Elective	SDG 4
SEN 420	Software Quality Assurance	3	Elective	SDG 8
CEN 45	Simulation and Modelling	3	Elective	SDG 9
CEN 451	Data Encryption and Security	3	Elective	SDG 9
CSC 404	Block chain Technologies	3	Elective	SDG 9
ITC 411	Cyber Security	3	Elective	SDG 11
CSC 484	Content Management	3	Elective	SDG 8 & 9
MKT 603	Product Management	3	Elective	SDG 4
HRM 691	Career Planning and Strategic Compensation Management	3	Elective	SDG 10
ENT 619	Technology Entrepreneurship	3	Elective	SDG 9 & 8
MIS 679	Enterprise Resource Planning (ERP) Implementation	3	Elective	SDG 9
MIS 625	Business Process Re-Engineering	3	Elective	SDG 9
	Database for Analytics with Daa Warehousing	3	Elective	SDG 11
	Fraud Analytics & Digital Forensics	3	Elective	SDG 8
	Geospatial Analytics	3	Elective	SDG 9
MARITIME				
MTM 101	Introduction to Maritime Industry	3	Elective	SDG 4

MTM 230	Introduction to Maritime Law and International Maritime Convention	3	Elective	SDG 16
MTM202	Economics of Sea Transport & International Trade	3	Elective	SDG 14
MTM 222	Introduction to Coastal Zone Management	3	Elective	SDG 14
MTM 304	Port Operations and Management	3	Elective	SDG 4
MTM 306	Shipping Operations and Management	3	Elective	SDG 4
MTM 322	Fisheries Resources & Management	3	Elective	SDG 14
MTM 401	Coastal Eco-Tourism Development and Management	3	Elective	SDG 14
MTM 403	Maritime Innovation & Entrepreneurship	3	Elective	SDG 9
MTM 501	Maritime Business: China Pakistan Perspective under CPEC	3	Elective	SDG 4
MTM 521	Maritime Business and HRM	3	Elective	SDG 10
MTM 504	Maritime Management: Concept and Applications	3	Elective	SDG 10
MTM 505	Contemporary Issues of Maritime Management	3	Elective	SDG 16
MTM 506	Maritime Management in Pakistan: Past, Present and Future	3	Elective	SDG 16
HRM 508	Marine Environments and Administration	3	Elective	SDG 13
ECO-363	<i>Introduction to Blue and Green Economy</i>	3	Elective	SDG 13

List of Social Sciences Courses

Course Code	Course Title	Credit Hours
HSS 109	Arabic	2
HSS 163	Chinese	2
HSS 160	French	2
HSS 164	German	2
HSS 161	Russian	2
HSS 162	Spanish	2
HSS 214	Turkish	2

BS Business and Information Technology (BSBIT)

Program Title: BS Business and Information Technology (BSBIT)
Duration: 4 Years Total
Eligibility Criteria: Intermediate or its equivalent with a minimum of 50% marks in any discipline.

Roadmap of BS B&IT

Semester -1

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		ENG 101	Functional English	3
2		MKT 110	Principle of Marketing	3
3		MGT 111	Principles of Management	3
4		QTM 122	Business Mathematics & Numeracy Skills	3
5		MIS 161	IT in Business (word, excel)	3
6		ECO 101	Fundamentals of Economics	3
7		ISL 107	Tajweed	0

Semester 2

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		ENG 102	English Writing Skills	3
2		CSC 113	Computer Programming	3
3		CSL 113	Computer Programming Lab	1
4		ENV 120	Introduction to Environment and Sustainability	3
5		QTM 110	Business Statistics	3
6		ACC 101	Principles of Accounting	3
7		ISL 203	*Fehm-e-Quran – I	1
		PAK 109	Ideology and Constitution of Pakistan	2

***For non-Muslim:** Any University approved 02 (or more) credit hours of Interdisciplinary Course

Semester 3

Sr. No.	Pre-requisite Courses	Course Code	Course Title	Credit Hours
1		ENG 213	Oral Communication and Presentation Skills	3
2		QTM 205	Statistical Inference and Quantitative Research	3

3	CSC 113	CSC 210	Object Oriented Programming	3
4	CSC 113	CSL 210	Object Oriented Programming Lab	1
5		SOC 212	Critical and Logical Thinking	3
6		HSS 202	Introduction to Sociology	3
7		ISL 201 / SOC 360	Islamic Socio-Economic Studies / Ethics	2
8		ISL 109	Understanding Quran-ii	0

Semester 4

Sr. No.	Pre-requisite Courses	Course Code	Course Title
1		HSS 219	Civic and Community Engagement
2		CEN 223	Computer Communication & Networks
3		CEL 223	Computer Communication & Networks Lab
4		CSC 220	Database Management System
5		CSL 220	Database Management System Lab
6		MGT 363	Entrepreneurship
7		FIN 201	Fundamentals of Finance
8		PAK 101	Pakistan Studies
9		ISL 204	Fehm-e-Quran – II
Total Credit Hours			

***For non-Muslim:** Any University approved 02 (or more) credit hours of Interdisciplinary Course

Semester 5

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		ENG 214	Business Communication	3
2	CSC 113	CSC 221	Data Structure & Algorithm	3
3	CSC 113	CSL 221	Data Structure & Algorithm Lab	1
4		MGT 253	Human Resource Management	3
5		HSS 301	Social and Psychological Development	3
6		MGT 435	Project Management	3
7		ISL 111	Understanding Quran-iv	0

Semester 6

Sr.	Prerequisite	Course Code	Course Title	Credit Hours
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No.	Courses			
1		SEN 220	Software Engineering	3
2		RMT 240	Research Methods & Techniques	3
3	CSC 210	CSC 411	Artificial Intelligence	2
4	CSC 210	CSL 411	Artificial Intelligence Lab	1
5		MGT 301	Business Law	3
6		SOC 350	Business Ethics	3
7		SCM 361	Introduction to Blue Economy and Green SCM	3
8		ISL 112	Understanding Quran-v	0

Semester 7

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		MKT 689	Digital Marketing	3
2		MIS 460	E-Commerce	3
3		MIS 461	Advance Application of IT in Business	3
4		CSC 487	Introduction to Data Science	2
5		CSL 487	Introduction to Data Science Lab	1
6			Specialization-I	3
7			Specialization-II	3
		ISL 113	Seerah-I	0
Total Credit Hours				18

Semester 8

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1	CSC 210	CSC 341	Mobile Application Development	2
2	CSC 210	CSL 341	Mobile Application Development Lab	1
3		HRM 242	Organizational Theory and Behavior	3
4			Specialization-III	3
5			Specialization-IV	3
6			Capstone Project	3

		ISL 114	Seerah-ii	0
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Field Experience / Internship

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours	HEC Category	UNSDGs
1		SDW 498	Field Experience / Internship*	3	Field Experience / Internship	SDG 4

- 6 weeks Internship after 4th Semester in the Summer semester, preferably.
- Honors, Awards, & scholarships will be calculated on the basis of coursework only, excluding internship credit hours.
- The Quran and Seerah program are optional for non-Muslim students.
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BS-BIT (ELECTIVES LIST)

Marketing

Course Code	Course Title	Credit Hours	HEC Category	UN SDGs
MKT 610	International Marketing	3	Electives	SDG 4
MKT 655	Services Marketing	3	Electives	SDG 9, 17
MKT 660	Strategic Marketing	3	Electives	SDG 8, 17
MKT 665	Cases in Marketing	3	Electives	SDG 9, 10
MKT 635	New Product Development	3	Electives	SDG 4,7 and 8
MKT 662	Brand Management	3	Electives	SDG 12,9
MKT 688	Social Media Marketing	3	Electives	SDG 2,17
MKT 699	Consumer Behaviour and Psychology	3	Electives	SDG 10
MKT 690	Integrated Marketing Communication	3	Electives	SDG 10, 17
MKT 650	Sales Management	3	Electives	
MKT 620	Marketing Research	3	Electives	SDG 9
MKT 693	B to B and Personal Selling	3	Electives	SDG 12
MKT 663	Promotion and Advertising Management	3	Electives	SDG 4,17
MKT 689	Digital Marketing	3	Electives	SDG 4, 7
MKT 691	Retail and Sales Management	3	Electives	SDG 8
MKT 692	Export Marketing	3	Electives	SDG 9,17

MKT 693	Marketing Issues in Pakistan	3	Electives	SDG 4, 12
MKT 694	Public Rationing and Relationship Marketing	3	Electives	SDG 4,17
MKT 695	Agriculture Marketing	3	Electives	SDG 1,4
MKT 603	Product Management	3	Electives	SDG 12
MKT 604	Distribution Management	3	Electives	SDG 8
MKT 605	Digital Analytics	3	Electives	SDG 9,12
MKT 606	Electronic CRM	3	Electives	SDG 7,17
MKT 697	Social Marketing	3	Electives	SDG 4,8
MKT 681	Copywriting Concepts, Protocols and Practices	3	Electives	SDG 4

Human Resource Management

Course Code	Course Title	Credit Hours	HEC Category	UN SDGs
HRM 666	Negotiations and Conflict Management	3	Electives	SDG 16
HRM 648	Organizational Development	3	Electives	SDG 10
HRM 676	International Human Resource Management	3	Electives	SDG 4
HRM 677	Seminars In HRM	3	Electives	SDG 4
HRM 689	Recruitment and Selection	3	Electives	SDG 10
HRM 679	Performance Management	3	Electives	SDG 10
HRM 690	HRM and HRD	3	Electives	SDG 4
HRM 691	Career Planning and Strategic Compensation Management	3	Electives	SDG 4
HRM 660	Training and Development	3	Electives	SDG 8
HRM 670	HR Planning	3	Electives	SDG 4
HRM 664	Job Analysis and Design	3	Electives	
HRM 649	HR Research Methods	3	Electives	SDG 8
HRM 682	Industrial Relations and Employment Laws	3	Electives	SDG 8
HRM 671	HR Information Systems	3	Electives	SDG 9
HRM 681	Strategic HRM	3	Electives	SDG 10

HRM 665	HR Theory and Practice	3	Electives	SDG 10
HRM 692	Organizational Psychology	3	Electives	SDG 10
HRM 695	HR Analytics	3	Electives	SDG 9

Finance

Course Code	Course Title	Credit Hours	HEC Category	UNSDGs
FIN 690	Financial Modelling	3	Electives	SDG 4
FIN 698	Strategic Finance	3	Electives	SDG 4
FIN 612	Analysis of Financial Statements	3	Electives	SDG 4
FIN 619	Financial Derivatives	3	Electives	SDG 8
FIN 611	Corporate Finance	3	Electives	SDG 4
FIN 692	Financial Markets and Institutions	3	Electives	SDG 10
FIN 693	Cases in Corporate Finance	3	Electives	SDG 4
FIN 523	FinTech	3	Electives	SDG 10
FIN 695	Investment Analysis and Portfolio Management	3	Electives	SDG 4
FIN 635	Management Corporate Turnaround	3	Electives	SDG 4
FIN 696	Financial Reporting	3	Electives	SDG 4, 8
FIN 697	Taxation and Auditing	3	Electives	SDG 10
ACC 622	Accounting Information Systems	3	Electives	SDG 9
FIN 682	Corporate Restructuring	3	Electives	SDG 9
FIN 688	Islamic Finance Theory and Practices	3	Electives	
ACC 608	Advanced Corporate Reporting	3	Electives	SDG 4
FIN 616	Management of Financial Institutions	3	Electives	SDG 4
FIN 600	Entrepreneurial Finance	3	Electives	SDG 4, 8
FIN 601	Debt Capital Markets	3	Electives	SDG 4
FIN 608	Mutual and Pension Funds	3	Electives	SDG 4, 9
FIN 604	Equity Capital Markets	3	Electives	SDG 4, 8
FIN 665	Behavioural Finance & Wealth Management	3	Electives	SDG 4, 9
FIN 625	Commodities and Derivatives Markets	3	Electives	SDG 8
FIN 461	Fundamentals of Behavioural Finance	3	Electives	SDG 8, 4

FIN 522	SAP Financial Data Analytics	3	Electives	SDG 4
FIN 524	Shariah Standards for Islamic Financial Institutions	3	Electives	SDG 9
FIN 684	Financial Engineering	3	Electives	SDG 8, 4
FIN 685	Business Intelligence	3	Electives	SDG 4

Entrepreneurship

Course Code	Course Title	Credit Hours	HEC Category	UNSDGs
ENT 602	Cases in Entrepreneurship	3	Electives	SDG 8
ENT 603	Developing New Products and Services	3	Electives	SDG 4, 8
ENT 620	Entrepreneurial Strategy in Emerging Markets	3	Electives	SDG 4, 9
ENT 606	Innovation s and Entrepreneurship	3	Electives	SDG 4,8
ENT 607	Managing Entrepreneurial Firms	3	Electives	SDG 4
ENT 608	Social Responsibility and Entrepreneurship	3	Electives	SDG 4, 8
ENT 622	Business Growth and Entrepreneurial Finance	3	Electives	SDG 9
ENT 612	Entrepreneurial Marketing	3	Electives	SDG 4
ENT 613	Organizations and Leading Change	3	Electives	SDG 4,9
ENT 614	Economic of Location and Transportation	3	Electives	SDG 4,17
ENT 621	Retailing and International Entrepreneurship	3	Electives	SDG 4,9
ENT 617	Corporate Entrepreneurship	3	Electives	SDG 4,8
ENT 619	Technology Entrepreneurship	3	Electives	SDG 4,9

Supply Chain Management

Course Code	Course Title	Credit Hours	HEC Category	UNSDGs
SCM 619	Strategic SCM	3	Electives	SDG 9
OPM 611	Operations and Production Management	3	Electives	SDG 12
SCM 650	Total Quality Management	3	Electives	SDG 4
SCM 600	Inventory Management	3	Electives	SDG 4
SCM 614	Strategic Operation Management	3	Electives	SDG 4
SCM 615	Sourcing and Logistics Management	3	Electives	SDG 4
SCM 616	Supply Chain Modelling	3	Electives	SDG 12
SCM 617	Demand Forecasting	3	Electives	SDG 12
SCM 618	Pricing In SCM	3	Electives	SDG 4

SCM 520	Purchasing	3	Electives	SDG 12
SCM 630	Strategic Procurement in Supply Chain	3	Electives	SDG 12
SCM 631	Operational Planning in Supply Chain	3	Electives	SDG 4
SCM 632	Execution and Control of Operations in SCM	3	Electives	SDG 12
SCM 633	Master Planning of Resources in SCM	3	Electives	SDG 12
SCM 634	Detailed Scheduling and Planning In SCM	3	Electives	SDG 12
SCM 635	Strategic Management of Resources In SCM	3	Electives	SDG 12
SCM 636	Green Supply Chain Management – GSCM	3	lectives	SDG 14
SCM 637	Shipping in SCM	3	Electives	SDG 14
SCM 639	Operational Planning in Supply Chain	3	Electives	SDG 4
SCM 638	Supply Chain Strategy, Design and Compliance	3	Electives	SDG 12
SCM 640	Supply Chain Implementation and Operations	3	Electives	SDG 12
SCM 641	Fundamentals of Supply Chain Management	3	Electives	SDG 4
SCM 621	Operations Research	3	Electives	SDG 4

Management Information System

Course Code	Course Title	Credit Hours	HEC Category	UNSDGs
MIS 655	Database Management System	3	Electives	SDG 9
MIS 620	System Analysis and Design	3	Electives	SDG 8,7
MIS 679	Enterprise Resource Planning (ERP) Implementation	3	Electives	SGD 8,4
MIS 672	Web Application Development	3	Electives	SDG 9
MIS 625	Business Process Re-Engineering	3	Electives	SDG 9,7
MIS 680	Data Communication and Networking	3	Electives	SDG 17,9
MIS 681	Information Security and System Auditing	3	Electives	SDG 9, 12
MIS 657	Knowledge Management Systems and Technologies	3	Electives	SDG 8, 9
MIS 658	Business Intelligence and Decisions Support	3	Electives	SDG 9,4
MIS 608	Digital Analytics	3	Electives	SDG 9,7
MKT 607	Electronic CRM	3	Electives	SDG 17,4

Maritime

Course Code	Course Title	Credit Hours	HEC Category	UNSDGs
MTM 101	Introduction to Maritime Industry	3	Electives	SDG 4
MTM 230	Introduction to Maritime Law and International Maritime Convention	3	Electives	SDG 16
MTM202	Economics of Sea Transport & International Trade	3	Electives	SDG 14
MTM 222	Introduction to Coastal Zone Management	3	Electives	SDG 14
MTM 304	Port Operations and Management	3	Electives	SDG 4
MTM 306	Shipping Operations and Management	3	Electives	SDG 4
MTM 322	Fisheries Resources & Management	3	Electives	SDG 14
MTM 401	Coastal Eco-Tourism Development and Management	3	Electives	SDG 14
MTM 403	Maritime Innovation & Entrepreneurship	3	Electives	SDG 9
MTM 501	Maritime Business: China Pakistan Perspective under CPEC	3	Electives	SDG 4
MTM 521	Maritime Business and HRM		Electives	SDG 10
MTM 504	Maritime Management: Concept and Applications	3	Electives	SDG 10
MTM 505	Contemporary Issues of Maritime Management	3	Electives	SDG 16
MTM 506	Maritime Management in Pakistan: Past, Present and Future	3	Electives	SDG 16
HRM 508	Marine Environments and Administration	3	Electives	SDG 13
ECO-363	Introduction to Blue and Green Economy	3	Electives	SDG 13

Foreign Language

Course Code	Course Title	Credit Hours	HEC Category	UNSDGs
CLE 401	Chinese Language	3	Elective	

Artificial Intelligence

Pre-Requisite	Course Code	Course Title	Credit Hours	HEC Category	UNSDGs
CEN 223	CSC 450	Internet of Things	3	Elective	
SEN 220	CSC 489	Ubiquitous Computing	3	Elective	

CSC 411	CSC 413	Introduction to Machine Learning	2	Elective	
CSC 411	CSL 413	Introduction to Machine Learning Lab	1	Elective	
CSC 411	CSC 466	Introduction to Biometrics	2	Elective	
CSC 411	CSL 466	Introduction to Biometrics lab`	1	Elective	
CSC 411	AIC 401	Deep Learning	2	Elective	
CSC 411	AIL 401	Deep Learning Lab	1	Elective	
None	AIC 202	Programming for Artificial Intelligence	2	Elective	
None	AIL 202	Programming for Artificial Intelligence Lab	1	Elective	

Data Analytics

Pre-Requisite	Course Code	Course Title	Credit Hours	HEC Category	UNSDGs
None	ITC 457	Knowledge Management System & Technologies	3	Elective	
CSC 220	CSC 452	Data Mining	3	Elective	
CSC 220	CSC 454	Data Warehousing	3	Elective	
CSC 220	CSC 426	Business Intelligence and Analytic	3	Elective	
CSC 221	CSC 404	Blockchain Technologies	3	Elective	
CSC 221	CSC 448	Introduction to Bioinformatics	3	Elective	
None	CSC 458	Management Information System	3	Elective	
CSC 220	CSC 487	Introduction to Data Science	2	Elective	
CSC 220	CSL 487	Introduction to Data Science Lab	1	Elective	
CSC 220	CSC 488	Big Data Analytics	2	Elective	
CSC 220	CSL 488	Big Data Analytics Lab	1	Elective	
CSC 220	CSC 490	Introduction to Cloud Computing	3	Elective	
CEN 223	ITC 411	Cyber Security	3	Elective	

Software Engineering

Pre-Requisite	Course Code	Course Title	Credit Hours	HEC Category	UNSDGs
	ITC 226	Web Systems & Technologies	3	Elective	
	ITL 226	Web Systems & Technologies Lab	3	Elective	
ITC 226	SEN 421	Semantic Web	3	Elective	
SEN 220	SEN 411	Software Testing	3	Elective	

SEN 220	SEN 456	Usability Engineering	3	Elective	
None	SEN 427	Information Systems Auditing and Assurance	3	Elective	
SEN 220	SEN 428	Service Oriented Architecture	3	Elective	
SEN 220	SEN 420	Software Quality Assurance	3	Elective	
None	SEN 320	Human Computer Interaction	3	Elective	
CEN 223	SEN 459	Software Defined Network	3	Elective	
SEN 220	SEN 410	Software Project Management	3	Elective	
SEN 220	SEN 457	Software Design and Architecture	2	Elective	
SEN 220	SEL 457	Software Design and Architecture Lab	1	Elective	

List of Social Sciences Courses

Course Code	Course Title	Credit Hours
HSS 109	Arabic	2
HSS 163	Chinese	2
HSS 160	French	2
HSS 164	German	2
HSS 161	Russian	2
HSS 162	Spanish	2
HSS 214	Turkish	2

MS (Business Analytics)

Program Title : MS (Business Analytics)

Duration : 1.5 Years Total

Eligibility Criteria: A bachelor's degree (16 Years of Education) in Business Related Education recognized by HEC. An overall grade-point-average (GPA) of at least 2.0/4 or 50% percent marks in last degree. As per MS program

Semester 1

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		MGT 734	Business Math's and Statistics	3
2		MGT 735	Advanced Research Methodology and Application	3
3		MGT 736	Strategic Decision Making	3
4		MGT 737	Data Mining	3

Semester 2

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		MGT 738	Tools for Business Analytics	3
2		MGT 739	Programming using Python/R	3
3		MGT XXX	Elective-I	3
4			*Fehm ul Quran 1	1

Semester 3

Sr. No.	Pre requisite Courses	Course Code	Course Title	Credit Hours
1			*Fehm ul Quran 2	1
2		THS 702	Thesis / Capstone Project	6
3		MGT XXX	Elective-II	3
	Total Credit Hours			10

***For non-Muslim:** Any University approved 02 (or more) credit hours of Interdisciplinary Course

(ELECTIVES LIST) MS (Business Analytics)

Course Code	Course Title	Credit Hours
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MSF 729	Fin tech/Data Science for Finance	3
MSF 730	Applied Time Series Analysis for Forecasting	3
MSF 731	Risk Management	3
MSF 732	Financial Modeling	3
MSM 741	Digital Marketing and social media	3
MSM 742	Retailing and Analytics	3
MSM 743	Market Strategy and Forecasting	3
MSM 744	Customer Relations Management	3
MGT 740	Decision Support System	3
MGT 741	Management Models	3
MGT 742	HR Analytics	3
MGT 743	Performance Management	3
MTM	Maritime Innovation & Entrepreneurship	3
MTM	Maritime Business: China Pakistan Perspective under CPEC	3
MTM	Maritime Business and HRM	3
MTM	Maritime Management: Concept and Applications	3
MTM	Contemporary Issues of Maritime Management	3

MS (Finance) (1.5 year MS Degree Program)

Program Title : MS (Finance) (1.5 year MS Degree Program)

Duration : 1.5 Years Total

Eligibility Criteria: 16 years of business/relevant education. Students with 16 years of non-business education will be required to do 30 credit hours of deficiency courses to become eligible for the MS Finance program.

Semester 1

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		MSF 700	Research Methods	3
2		MSF 733	Econometrics	3
3		MSF 702	Financial Modeling and VBA	3
4		MSF XXX	Elective-I	3

Semester 2

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		MSF 704	Financial Econometrics	3
2		MSF XXX	Elective-II	3
3		MSF XXX	Elective-III	3
4			*Fehm ul Quran 1	1

Semester 3

Sr. No.	Pre requisite Courses	Course Code	Course Title	Credit Hours
1			Fehm ul Quran 2	1
2		MSF XXX	Elective-IV	3
3		THS 702	Thesis / Capstone Project	6
	Total Credit Hours			10

***For non-Muslim:** Any University approved 02 (or more) credit hours of Interdisciplinary Course

(ELECTIVES LIST) MS (Finance)

Course Code	Course Title	Credit Hours
MSF 710	Advance Portfolio Analysis and Management	3

MSF 711	Derivatives Investments	3
MSF 712	Alternative Investments	3
MSF 713	Fixed Income Investments and Analysis	3
MSF 714	Asset Pricing Theory	3
MSF 715	Real Estate Investments	3
MSF 716	Behavioral Finance & Decision Making	3
MSF 717	Advance Topics in Corporate Finance	3
MSF 718	Case Studies in Corporate Finance	3
MSF 719	Mergers and Acquisition Analysis	3
MSF 720	International Finance and Investments	3
MSF 721	Theory of Finance	3
MSF 722	Financial Restructuring	3
MSF 723	Asset Valuation	3
MSF 724	Strategic Financial Management	3
MSF 725	Financial System and Regulations	3
MSF 726	Financial Risk Management and Derivatives	3
MSF 727	Insurance and Risk Management	3
MSF 728	Structured Securities	3
MSF 710	Advance Portfolio Analysis and Management	3
MTM	Maritime Innovation & Entrepreneurship	3
MTM	Maritime Business: China Pakistan Perspective under CPEC	3
MTM	Maritime Management: Concept and Applications	3
MTM	Contemporary Issues of Maritime Management	3

List of Social Sciences Courses

Course Code	Course Title	Credit Hours
HSS 109	Arabic	2
HSS 163	Chinese	2
HSS 160	French	2
HSS 164	German	2
HSS 161	Russian	2
HSS 162	Spanish	2
HSS 214	Turkish	2

MS-Marketing & Sales

Program Title : MS-Marketing & Sales

Duration : 1.5 Years Total

Eligibility Criteria: 16 years of Business or Management education equivalent degree with 2.0/4 CGPA or 50% marks. Students with non-business background will take deficiency courses as per HEC rules.

Semester 1

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		MSM 701	Applied Approaches to Branding & Communication	3
2		MSM 704	Research Philosophy and Quantitative Techniques	3
3		MSM 721	Advanced Marketing research & Consumer Behavior	3
4			Elective 1	3

Semester 2

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		MSM 722	Emerging Concepts of Channels & Distribution	3
2		MSM 795	Independent Market Study	3
3			Elective 2	3
4			Elective 3	3
5		ISL 203	*Fehm ul Quran 1	1

Semester 3

Sr.No.	Pre requisite Courses	Course Code	Course Title	Credit Hours
1			Elective 4	3
2		ISL 204	*Fehm ul Quran 2	1
		THS 799	Thesis/ Capstone Project	6

***For non-Muslim:** Any University approved 02 (or more) credit hours of Interdisciplinary Course
(ELECTIVES LIST)

MS Marketing & Sales

Course Code	Course Title	Credit Hours
MSM 731	Seminar in Sales Force Management	3
MSM 732	Marketing Analytics and Data Mining	3
MSM 733	Entrepreneurial Marketing	3

MSM 734	Topics in Strategic Sales Management	3
MSM 735	Philosophy of Customer Relationship Management	3
MSM 736	Perspectives of Retailing & Franchise Management	3
MSM 737	Corporate Sales & Key Account Management	3
MSM 738	Marketing Modeling	3
MSM 739	Discourse of Personal Selling	3
MSM 740	Digital Marketing	3
MTM	Maritime Innovation & Entrepreneurship	3
MTM	Maritime Business: China Pakistan Perspective under CPEC	3
MTM	Maritime Management: Concept and Applications	3
MTM	Contemporary Issues of Maritime Management	3

List of Social Sciences Courses

Course Code	Course Title	Credit Hours
HSS 109	Arabic	2
HSS 163	Chinese	2
HSS 160	French	2
HSS 164	German	2
HSS 161	Russian	2
HSS 162	Spanish	2
HSS 214	Turkish	2

MS (Management Sciences) (1.5 year MS Degree Program)

Program Title : MS (Management Sciences) (1.5 year MS Degree Program)

Duration : 1.5 Years Total

Eligibility Criteria: 16 years education from HEC recognized educational universities / institutes, students with business / management sciences backgrounds with the minimum of 50% marks or CGPA 2.00/4.0 in a discipline. must pass Bahria University admission test. **AND/OR** NTS – GAT general with 50 Marks obtained in less than two years prior to admissions. (Policies of HEC shall apply as amended from time to time).

Semester 1

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		MGT 705	Strategic Management: Contemporary Concepts, Theories and Applications	3
2		MGT 702	Advanced Research Methodology and Proposal Development	3
3		MGT 706	Advance Marketing Management: Concept and Applications	3
4		MGT XXX	Elective-I	3

Semester 2

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		MGT 707	Strategic Finance: Concepts and Applications of Contemporary Views	3
2		MGT XXX	Elective-II	3
3		MGT XXX	Elective-III	3
4		ISL 203	Fehm ul Quran 1	1

Semester 3

Sr. No.	Pre requisite Courses	Course Code	Course Title	Credit Hours
1		ISL 204	Fehm ul Quran 2	1
2		THS 702	Thesis / Capstone Project	6
3		MSF XXX	Elective-IV	3

***For non-Muslim:** Any University approved 02 (or more) credit hours of Interdisciplinary Course

(ELECTIVES LIST)
MS (Management Sciences)

Course Code	Course Title	Credit Hours	HEC Category	UN SDGs
MGT 717	Contemporary Issues in International Marketing: Concepts and Applications	3	Electives	8
MGT 718	Corporate Governance and Sustainability	3	Electives	8
MGT 725	Globalization	3	Electives	8
MGT 721	HRM: Concepts and Applications	3	Electives	8
MGT 715	Change Management: Concepts and Applications	3	Electives	8
MGT 711	Leadership Issues in Organizations: Concepts & Applications	3	Electives	8
MGT 731	Organizational Behavior and Management	3	Electives	8
MGT 732	Financial Institution Management	3	Electives	8
MGT 733	International Business and Economics Perspectives	3	Electives	8
MGT 729	Financial Econometrics	3	Electives	8

MARITIME

MTM	Maritime Innovation & Entrepreneurship	3	Electives	9
MTM	Maritime Business: China Pakistan Perspective under CPEC	3	Electives	17
MTM	Maritime Business and HRM	3	Electives	8
MTM	Maritime Management: Concept and Applications	3	Electives	9
MTM	Contemporary Issues of Maritime Management	3	Electives	14

List of Social Sciences Courses

Course Code	Course Title	Credit Hours
HSS 109	Arabic	2
HSS 163	Chinese	2
HSS 160	French	2
HSS 164	German	2
HSS 161	Russian	2
HSS 162	Spanish	2
HSS 214	Turkish	2

MS in Project Management

Program Title: MS in Project Management

Duration: 1.5 Years Total

Eligibility Criteria: Minimum 16 years of education from HEC recognized educational institutes in any discipline, CGPA 2.0/4.0 or 50% marks in non-CGPA degree. GAT General with 50% Marks (is accepted but not mandatory). or 50% minimum passing marks in BU Entry Test.

Roadmap of MS-PM

Semester 1

Course Code	Course Title	Credit Hours	HEC Category	UN SDGs	Remarks
MSP 703	Project HR and Stakeholder Management	3	Disciplinary	SDG 8	
MSP 750	Project Management Principles and Practices	3	Disciplinary	SDG 9	
ISL 203	Fehm-e- Quran I/ Ethics I	1	Inter-Disciplinary	SDG 4	New CC ISL 203 with 01 CHs is recommended to adopted for 'Fehm-e- Quran I'. New CC ETH 101 with 01 CHs is recommended to adopted for 'Ethics I'.
MSP 797	Research Methodology	3	Disciplinary	SDG 4	Recommended to be adopted.
Total Credit Hrs		10			

Semester 2

Course Code	Course Title	Credit Hours	HEC Category	UN SDGs	Remarks
MSP 707	Project Quality Management and Lean Operations	3	Disciplinary	SDG 9	
MSP 711	Project Planning and Contract Management	3	Disciplinary	SDG 16	Recommended to be adopted.
MSP 712	Project cost & Risk Management	3	Disciplinary	SDG 9	Recommended to be adopted.
ISL 204	Fehm-e- Quran II/ Ethics II	1	Inter – Disciplinary	SDG 4	New CC ISL 204 with 01 CHs is recommended to adopted for 'Fehm-e- Quran II'. New CC ETH 103 with 01 CHs is recommended to adopted for 'Ethics II'
MSP 741	Project I	3	Disciplinary	Appendix	New CC MSP 741 with 03 CHs is recommended to adopted for 'Project I'.
Total Credit Hrs		13			

Semester 3

Course Code	Course Title	Credit Hours	HEC Category	UN SDGs	Remarks
MSP 708	Project Evaluation and Control Management	3	Disciplinary	SDG 9	
MSP 742	Project II	3	Disciplinary	Appendix	New CC MSP 742 with 03 CHs is recommended to adopted for 'Project II'.
MSP XXX	Elective	3	Disciplinary	Appendix	
THS 799	*Research Thesis	6	Disciplinary	Appendix	
Total Credit Hrs		9			

* Thesis is optional. Students who opt for the thesis are exempt from Project I and Project II.

List of Electives				
Course Code	Course Title	CHs	SDG No.	Remarks
MSP 721	Disaster Management for Disasters	3	11	
MSP 722	Innovation and Technology Management	3	9	
MSP 723	NGO Management	3	11	
MSP 724	Scope and Integration Management	3	11	
MSP 725	Government Projects (PC1- PC5)	3	9	
MSP 726	Project Supply Chain Management	3	12	
MSP 727	Project Review, Assurance and Governance	3	9	
MSP 728	Project Communication and Stakeholder Management	3	8	
MSP 744	Project in controlled environment (Prince 2)	3	9	New CC MSP 744 with 03 CHs is recommended to be adopted for 'Project in controlled environment (Prince 2)'.
MSP 745	Agile Project Management	3	8	New CC MSP 745 with 03 CHs is recommended to be adopted for 'Agile Project Management'.

List of Projects				
Course Code	Course Title	CHs	SDG No.	Remarks
MSP 731	Primavera CBT	3	9	
MSP 732	EPM Microsoft Project Server (2010) CBT	3	8	
MSP 733	Share Point Solutions CBT	3	9	
MSP 734	Available for CBT Projects	3	9	
MSP 735	Project Management Office (PMO) Classroom based	3	8	
MSP 736	Advance Skills for Project Management Professionals Classroom based	3	9	

MSP736	Advance Skills for Project Management Professionals Classroom based	3	9
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Maritime

Course Title	Credit Hours
Introduction to Maritime Industry	3
Introduction to Maritime Law and International Maritime Convention	3
Economics of Sea Transport & International Trade	3
Introduction to Coastal Zone Management	3
Port Operations and Management	3
Shipping Operations and Management	3
Fisheries Resources & Management	3
Coastal Eco-Tourism Development and Management	3
Maritime Innovation & Entrepreneurship	3
Maritime Business: China Pakistan Perspective under CPEC	3
Maritime Business and HRM	
Maritime Management: Concept and Applications	3
Contemporary Issues of Maritime Management	3
Maritime Management in Pakistan: Past, Present and Future	3
Marine Environments and Administration	3
Introduction to Blue and Green Economy	3

List of Social Sciences Courses

Course Code	Course Title	Credit Hours
HSS 109	Arabic	2
HSS 163	Chinese	2
HSS 160	French	2
HSS 164	German	2
HSS 161	Russian	2
HSS 162	Spanish	2
HSS 214	Turkish	2

MS- Supply Chain Management

Program Title: **MS (SCM)**

Duration: 1.5 Years

Eligibility Criteria: Students eligible for the MS Supply Chain Management should have 16 years of business background or commerce education with minimum of 50% marks in non-CGPA degree or CGPA 2.0/4.0. GAT General with 50% Marks (is accepted but not mandatory). Candidate without business background can be admitted after completing 30-36 credit hours deficiency courses from business domain as mentioned on website.

Semester-wise Road map

Semester 1

Sr.No.	Course Code	Course Title	Credit Hours
1	SCM701	Fundamentals of Supply Chain Management	3
2	SCM 734	Advanced Negotiation, Contracting & Law in Procurement and Supply	3
3	SCM 728	Advanced Supplier Selection & Bid Evaluation	3
4	ISL 203	Fehm ul Quran	1

Semester 2

Sr. No.	Course Code	Course Title	Credit Hours
1	SCM 729	Advanced Business Research Methods (Focus on SCM)	3
2	SCM707	Contemporary Issues in Supply Chain	3
3	SCM 730	Advanced Inventory & Logistics Operations	3
4	SCM706	Operations Management & Supply Chain	3
5	ISL 204	Fehm ul Quran II	1

Semester 3

Sr.No.	Course Code	Course Title	Credit Hours
1	SCM 708	Strategic Supply Chain Management	3
2	SCM 731	Advanced Supply Chain Finance	3
3	SCM XXX	Elective- 1 (Specialization)	3
4	SCM XXX	Elective- 2 (Specialization)	3

Semester 4

Sr. No.	Course Code	Course Title	Credit Hours
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1	SCM708	Strategic Supply Chain Management	3
2	SCM 731	Advanced Supply Chain Finance	3
	THS 799	Research Thesis	6

List of Elective Courses

Course Code	Course Title	Credit Hours
SCM721	Leadership in Procurement and Supply	3
SCM722	Managing Risks in Supply Chains	3
SCM 732	Advanced Supply Chain Diligence	3
SCM724	Category Management in Procurement and Supply	3
SCM725	Regulatory Framework for Trade Harmonization in International Supply Chain	3
SCM726	Mathematical Modeling & Optimization Techniques in Supply Chain	3
SCM 733	Advanced Software & Simulations	3

Maritime

Course Code	Course Title	Credit Hours
	Introduction to Maritime Industry	3
	Introduction to Maritime Law and International Maritime Convention	3
	Economics of Sea Transport & International Trade	3
	Introduction to Coastal Zone Management	3
	Port Operations and Management	3
	Shipping Operations and Management	3
	Fisheries Resources & Management	3
	Coastal Eco-Tourism Development and Management	3
	Maritime Innovation & Entrepreneurship	3
	Maritime Business: China Pakistan Perspective under CPEC	3
	Maritime Business and HRM	
	Maritime Management: Concept and Applications	3
	Contemporary Issues of Maritime Management	3
	Maritime Management in Pakistan: Past, Present and Future	3
	Marine Environments and Administration	3
	Introduction to Blue and Green Economy	3

List of Social Sciences Courses

Course Code	Course Title	Credit Hours
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HSS 109	Arabic	2
HSS 163	Chinese	2
HSS 160	French	2
HSS 164	German	2
HSS 161	Russian	2
HSS 162	Spanish	2
HSS 214	Turkish	2

MS HRM & Organizational Psychology

Program Title: MS HRM & Organizational Psychology

Duration: 2 Years Total

Eligibility Criteria: 16 years of education from HEC recognized educational universities / institutes, students with management sciences and psychology / sociology backgrounds. CGPA 2.0 or above in the final degree, if degree obtained from a CGPA based system. Minimum 50% marks if degree obtained from non-CGPA degree program / institute. Must pass Bahria University Admission Test. Or GAT General with 50 Marks obtained in less than two years prior to admissions.

Semester 1

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		MHO 701	Contemporary HRM and Practices	3
2		MHO 702	Personnel Selection and Advanced Counseling Skills	3
3		MHO 703	Organizational Psychology and Psychometrics	3
4		ISL 203	Fehm-e-Quran – I	1

Semester 2

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		MHO 704	Applied Attitude and Behavioral Analysis	3
2		MHO 705	Contemporary Issues in Business and Industry	3
3		MHOxxx	Elective-I	3
6		ISL 204	Fehm-e-Quran – II	1

***For non-Muslim:** Any University approved 02 (or more) credit hours of Interdisciplinary Course

Semester 3

Sr. No.	Pre -requisite Courses	Course Code	Course Title	Credit Hours
1		MHO 711	Advanced Research Methodology and Proposal Development	3
2		MHO xxx	Elective-II	3
3		MHO xxx	Elective-III	3

Semester 4

Sr. No.	Pre requisite Courses	Course Code	Course Title	Credit Hours
1		SDW 796	Internship	3
2		THS 799	Research Thesis	6

ELECTIVES

Course Code	Course Title	Credit Hours	HEC Category	SDG
MHO 710	Leadership Issues in Organizations: Concepts and Applications	3		16
MHO 712	Theories of Learning and Conditioning	3		4
MHO 713	Communication Strategies of Scholars	3		4
MHO 715	Seminars in Organizational Behaviors	3		8
MHO 716	Culture and Persuasion	3		10
MHO 717	Social and Self-Development	3		10
MHO 718	Abnormal Psychology	3		3
MHO 719	Industrial Relations and Labour Laws	3		8
MHO 720	Seminars in Organizational Development	3		8
MHO 721	Seminars in Human Resource Development	3		9
MHO 722	Conflict Resolution Skills	3		10
MHO 723	HR Analytics	3		4
MHO XXX	Performance and Rewards Management	3		16
MHO XXX	Creativity and Innovation	3		10
MHO XXX	Harnessing Employee Talent: Motivating a Diverse Workforce	3		8
MHO XXX	The Psychology of Competition and Peak Performance	3		4
Maritime				
Course Code	Course	Cr Hr	HEC Category	SDG
MTM 101	Introduction to Maritime Industry	3	Electives	SDG 4
MTM 230	Introduction to Maritime Law and International Maritime Convention	3	Electives	SDG 16

MTM202	Economics of Sea Transport & International Trade	3	Electives	SDG 14
MTM 222	Introduction to Coastal Zone Management	3	Electives	SDG 14
MTM 304	Port Operations and Management	3	Electives	SDG 4
MTM 306	Shipping Operations and Management	3	Electives	SDG 4
MTM 322	Fisheries Resources & Management	3	Electives	SDG 14
MTM 401	Coastal Eco-Tourism Development and Management	3	Electives	SDG 14
MTM 403	Maritime Innovation & Entrepreneurship	3	Electives	SDG 9
MTM 501	Maritime Business: China Pakistan Perspective under CPEC	3	Electives	SDG 4
MTM 521	Maritime Business and HRM	3	Electives	SDG 10
MTM 504	Maritime Management: Concept and Applications	3	Electives	SDG 10
MTM 505	Contemporary Issues of Maritime Management	3	Electives	SDG 16
MTM 506	Maritime Management in Pakistan: Past, Present and Future	3	Electives	SDG 16
HRM 508	Marine Environments and Administration	3	Electives	SDG 13
ECO-363	Introduction to Blue and Green Economy	3	Electives	SDG 13

List of Social Sciences Courses

Course Code	Course Title	Credit Hours
HSS 109	Arabic	2
HSS 163	Chinese	2
HSS 160	French	2
HSS 164	German	2
HSS 161	Russian	2
HSS 162	Spanish	2
HSS 214	Turkish	2

PhD (Economics)

Program Title: PhD (Economics)

Duration: 3 Years

Eligibility Criteria: 18 year of education (MS/MPhil/equivalent degree) in relevant discipline from an HEC recognized university with a minimum CGPA of 3.00/4.00 (Semester System) or 60% marks (Annual System). NTS-GAT (General) or GRE (General) Test passed with minimum 60% marks or BU Admission Test (60% passing marks). Initial Research Proposal/Statement of Purpose is required at the time of PhD admission.

Semester 1

Sr. No.	Prerequisite Course Code	Course Code	Course Title	Credit Hours
1		ECO 801	Applied Microeconomic Theory	3
2		ECO 802	Applied Macroeconomic Theory	3
3		ISL 203	Fehm-e-Quran 1	1
4			Elective 1	3

Semester 2

Sr. No.	Prerequisite Course Code	Course Code	Course Title	Credit Hours
1		ECO 803	Advanced Econometric Methods	3
1		ISL 204	Fehm-e-Quran 2	1
3			Elective II	3
4			Elective III	3

***For non-Muslim:** Any University approved 02 (or more) credit hours of Interdisciplinary Course

Semester 3

S.#	Prerequisite Course Code	Course Code	Course Title	Credit Hours
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1		THS900	PhD Thesis	9
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Semester 4

S.#	Prerequisite Course Code	Course Code	Course Title	Credit Hours
1		THS900	PhD Thesis	9

Semester 5

S.#	Prerequisite Course Code	Course Code	Course Title	Credit Hours
1		THS900	PhD Thesis	9

Semester 6

S.#	Prerequisite Course Code	Course Code	Course Title	Credit Hours
1		THS900	PhD Thesis	9

ELECTIVES

Course Code	COURSE TITLE	Credit Hours	Category
ECO 811	Agricultural Development and Policy	3	Elective
ECO 812	Development Economics	3	Elective
ECO 813	Economic Growth and Distribution	3	Elective
ECO 814	Economics of Population	3	Elective
ECO 815	Environmental Economics	3	Elective
ECO 816	International Economics	3	Elective
ECO 817	Mathematical Economics	3	Elective
ECO 818	Monetary Economics	3	Elective
ECO 819	Topics in Advanced Econometrics	3	Elective

Maritime

Course Code	Course Title	Credit Hours
	Introduction to Maritime Industry	3

	Introduction to Maritime Law and International Maritime Convention	3
	Economics of Sea Transport & International Trade	3
	Introduction to Coastal Zone Management	3
	Port Operations and Management	3
	Shipping Operations and Management	3
	Fisheries Resources & Management	3
	Coastal Eco-Tourism Development and Management	3
	Maritime Innovation & Entrepreneurship	3
	Maritime Business: China Pakistan Perspective under CPEC	3
	Maritime Business and HRM	
	Maritime Management: Concept and Applications	3
	Contemporary Issues of Maritime Management	3
	Maritime Management in Pakistan: Past, Present and Future	3
	Marine Environments and Administration	3
	Introduction to Blue and Green Economy	3

List of Social Sciences Courses

Course Code	Course Title	Credit Hours
HSS 109	Arabic	2
HSS 163	Chinese	2
HSS 160	French	2
HSS 164	German	2
HSS 161	Russian	2
HSS 162	Spanish	2
HSS 214	Turkish	2

PhD Management Science

Program Title: PhD (Management Science)

Duration: 3 Years

Eligibility Criteria: 18 years of MS/MPhil or equivalent education from an HEC- recognized university in relevant discipline with a minimum CGPA of 3.00/4.00 (Semester System) or 60% marks (Annual System).

- NTS-GAT (General) or GRE (General) Test passed with minimum 60% marks or BU Admission Test (60% passing marks).
- Initial Research Proposal/Statement of Purpose is required at the time of PhD admission.

Semester-wise Road map

Semester 1

Sr. No.	Prerequisite Course Code	Course Code	Course Title	Credit Hours
1		MGT 802	Advanced Qualitative Research Methods	3
2		MGT 805	Contemporary Issues in Management Sciences	3
3		MGT 806	Advanced Quantitative Research Methods	3
4		ISL 203	Fehm-e-Quran 1	1

Semester 2

Sr. No.	Prerequisite Course Code	Course Code	Course Title	Credit Hours
1		ISL 204	Fehm-e-Quran 2	1
2		MGTxxx	Elective I	3
3		MGTxxx	Elective II	3
4		MGTxxx	Elective III	3

***For non-Muslim:** Any University approved 02 (or more) credit hours of Interdisciplinary Course

Semester 3

S.#	Prerequisite Course Code	Course Code	Course Title	Credit Hours
1		THS899	PhD Thesis	9

Semester 4

S.#	Prerequisite Course Code	Course Code	Course Title	Credit Hours
1		THS899	PhD Thesis	9

Semester 5

S.#	Prerequisite Course Code	Course Code	Course Title	Credit Hours
1		THS899	PhD Thesis	9

Semester 6

S.#	Prerequisite Course Code	Course Code	Course Title	Credit Hours
1		THS899	PhD Thesis	9

ELECTIVES

Course Code	Course Title	Credit Hours	Category
MGT 830	Seminars in Organizational Behavior	3	Elective
MGT 831	Communication Strategies for Scholars	3	Elective
MGT 832	Seminar in Behavioral Decision Making	3	Elective
MGT 833	Seminar in International Human Resource Management	3	Elective
MGT 834	Dissertation Research	3	Elective
MGT 835	Industrial / Organizational Psychology	3	Elective
MGT 836	Seminar in economics of Strategy and Organization	3	Elective
MGT 837	Seminar in Leadership and change Management	3	Elective
MGT 838	Advanced International Business Management	3	Elective
MGT 839	Intelligent Information systems Marketing Courses	3	Elective
MGT 840	Seminar in Entrepreneurial Communication	3	Elective

MGT 841	Behavior Research in Marketing	3	Elective
MGT 842	Seminar in Behavioral Research in Marketing II: Consumer Behavior	3	Elective
MGT 843	Seminar in Product Planning	3	Elective
MGT 844	Seminar in qualitative Research in Marketing: Strategic Models and Methods	3	Elective
MGT 845	Empirical Analysis of Dynamic Decision Context	3	Elective
MGT 846	Culture and Persuasion	3	Elective
MGT 847	Seminar in International Marketing	3	Elective
MGT 848	Advance topic in Marketing	3	Elective
MGT 849	Marketing Research and Analysis	3	Elective
MGT 850	Seminar in International Advertising	3	Elective
MGT 851	Behavior Research in Marketing	3	Elective
MGT 852	Production and Operations Management	3	Elective
MGT 828	Financial Econometrics	3	Elective
MGT 870	Behavioral Finance and Decision Making	3	Elective
MGT 853	Corporate Sustainability and Financial Performance	3	Elective
MKT	Behavioral Approaches to Decision Making and Negotiation (Elective)	3	Elective
MKT	Analytical Methods in Marketing (Elective)	3	Elective

Maritime

Course Code	Course Title	Credit Hours	HEC Category
	Introduction to Maritime Industry	3	Electives
	Introduction to Maritime Law and International Maritime Convention	3	Electives
	Economics of Sea Transport & International Trade	3	Electives
	Introduction to Coastal Zone Management	3	Electives
	Port Operations and Management	3	Electives
	Shipping Operations and Management	3	Electives
	Fisheries Resources & Management	3	Electives

	Coastal Eco-Tourism Development and Management	3	Electives
	Maritime Innovation & Entrepreneurship	3	Electives
	Maritime Business: China Pakistan Perspective under CPEC	3	Electives
	Maritime Business and HRM		Electives
	Maritime Management: Concept and Applications	3	Electives
	Contemporary Issues of Maritime Management	3	Electives
	Maritime Management in Pakistan: Past, Present and Future	3	Electives
	Marine Environments and Administration	3	Electives
	Introduction to Blue and Green Economy	3	Electives

List of Social Sciences Courses

Course Code	Course Title	Credit Hours
HSS 109	Arabic	2
HSS 163	Chinese	2
HSS 160	French	2
HSS 164	German	2
HSS 161	Russian	2
HSS 162	Spanish	2
HSS 214	Turkish	2

Bachelor of Media Studies

Program Title: BS (Media Studies)

Duration: 4 Years (8 Semesters)

Eligibility Criteria: All candidates who have passed the intermediate examination or its equivalent with a minimum of 50% marks in any discipline can apply for admission to BS Media Studies.

Road Map of BS (Media Studies)

Semester 1

<i>Sr. #</i>	<i>Course Code</i>	<i>Course Title</i>	<i>Credit Hours</i>
1	ENG 101	Functional English	03
2	MED 109	Computer Skills for Mass Communication	03
3	MED 107	Introduction to Mass Communication	03
4	ENV 105	Introduction to Environmental Sciences	03
5	PAK 105	Pakistan Studies	02
6	MED 110	Photography	03
7	ISL 107	Tajweed	Non-Credited every week

Semester 2

<i>Sr. #</i>	<i>Course Code</i>	<i>Course Title</i>	<i>CHs</i>
1	ENG 133	Writing & Presentation Skills	03
2	HSS 101	Introduction to Philosophy	03
3	MED 211	Introduction to Broadcast Media	03
4	MAT 105	Mathematics	03
5	ISL 100	Islamic Studies / Ethics	02
6		Elective* (Major)	03
7	ISL 108	Understanding Quran i	Non-Credited every week

Semester 3

<i>Sr. #</i>	<i>Course Code</i>	<i>Course Title</i>	<i>CHs</i>
1	HSS 331	Fundamentals of International Relations	02
2	HSS 112	Introduction to Political Science	03
3	MAT 205	Statistics	03

4	MED 210	News Writing and Reporting	03
5		Elective (Arts & Humanities)	02
6		Elective* (Major)	03
7	PAK 109	Ideology and Constitution of Pakistan	02
8	ISL 109	Understanding Quran-II	Non-Credited every week

Semester 4

<i>Sr. #</i>	<i>Course Code</i>	<i>Course Title</i>	<i>CHs</i>
1	MGT 363	Entrepreneurship	02
2	HSS 219	Civics & Community Engagement	02
3	HSS 334	Fundamentals of Sociology	03
4	HSS 107	Introduction to Psychology	03
5	MED 208	Introduction to Digital Media	03
6		Elective*(Major)	03
7	ISL 110	Understanding Quran-III	Non-Credited every week

Semester 5

<i>Sr. #</i>	<i>Course Code</i>	<i>Course Title</i>	<i>CHs</i>
1	MED 303	Mass Communication Theories	03
2	MED 305	Script Writing and Editing	03
3	MED 206	Current Affairs	03
4	MED 204	Introduction to Advertising and Public Relations	03
5	MED 209	Journalistic Language	03
6		Elective* (Major)	03
7	ISL 111	Understanding Quran-iv	Non- Credited every week

Semester 6

<i>Sr. #</i>	<i>Course Code</i>	<i>Course Title</i>	<i>CHs</i>
1	MED 304	Research Methods	03
2	MED 306	Photo Journalism	03
3	MED 401	Online Journalism	03
4	MED 403	Media Laws and Ethics	03
5		Elective* (Major)	03

6	ISL 112	Understanding Quran-V	Non-Credited every week
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Semester 7

Sr. #	Course Code	Course Title	CHs
1	HSS 401	Statistical Analysis of Social Data	03
2	MED 448	Intercultural Communication	03
3		Elective* (Major)	03
4		Elective* (Major)	03
5		Elective* (Major)	03
6	ISL 113	Seerah-I	Non- Credited every week

Semester 8

Sr. #	Course Code	Course Title	CHs
1	MED 402	Research Report/ Final Project/ Research Article	03
2	MED 404	Development Support Communication	03
3	MED 446	Digital Public Relations	03
4		Elective* (Major)	03
5		Elective* (Major)	03
6	ISL 114	Seerah-II	Non-credited every week
Total Chs			15

1. Gen Education Courses

S#	Course Code	Course Title	Credit Hours
1	HSS 331	Fundamentals of International Relations	02
2	ENV 105	Introduction to Environmental Sciences	03
3	MAT 105	Mathematics	03
4	MAT 205	Statistics	03
5	MED 109	Computer Skills for Mass Communication	03
6	ENG 100	Functional English	03
7	ENG 133	Writing & Presentation Skills	03
8	ISL 101	Islamic Studies	02
9	PAK 102	Pakistan Studies	02
10	HSS 219	Civics and Community Engagement	02
11	MGT 363	Entrepreneurship	02
12		Physical Education & Sports / Language*	02

List of Elective Course			
S#	Code	Title	CHs
1	MED 107	Introduction to Mass Communication	03
2	MED 110	Photography	03
3	MED 209	Journalistic Language	03
4	MED 211	Introduction to Broadcast Media	03
5	MED 210	News Writing and Reporting	03
6	MED 204	Introduction to Advertising and Public Relations	03
7	MED 208	Introduction to Digital Media	03
8	MED 303	Mass Communication Theories	03
9	MED 305	Script Writing and Editing	03
10	MED 206	Current Affairs	03
11	Med 304	Research Methods	03
12	MED 306	Photojournalism	03
13	MED 402	Online Journalism	03
14	MED 403	Media Laws and Ethics	03
15	MED 404	Development Support Communication	03
16	HSS 401	Statistical Analysis of Social Data	03
17	MED 448	Intercultural Communication	03
18	MED 446	Digital Public Relations	03
19	MED 308	Video Editing	03
20	MED 309	World Cinema	03
21	MED 311	2D Animation	03
22	MED 312	Principles of Public Relations	03
23	MED 313	Musicology	03
24	MED 314	Media, Culture and Society	03
25	MED 315	Sound Design	03
26	MED 113	Introduction to Film Studies	03
27	MED 111	Media and Society	03
28	MTB 318	Film Analysis	03
29	MTB 319	Introduction to Theatre	03
30	MTB 420	Media Entrepreneurship	03

31	MED 302	Feature, Column and Editorial Writing	03
32	MED 307	Elements of Advertising	03
33	MED 301	Sub-Editing and Page Designing	03
34	MED 440	Copy and Layout Designing	03
35	MED 202	Functional Urdu	03
36	MED 437	2D / 3D Animation	03
37	MED 444	Persuasive Writing	03
38	MED 445	PR Campaign Designing	03
39	MED 447	International Public Relations	03
40	MED 417	Advanced cinematography	03
41	MED 418	Art Direction	03
42	MED 421	Motion graphics and compositing	03
43	MED 411	Magazine Production/Magazine Program Production	03
44	MED 408	Community Journalism	03
45	MED 413	Newspaper Production	03
46	MTB 426	Digital Journalism	03
47	MTB 434	Multimedia Skills	03
48	MTB 331	Environmental Communication	03
49	MED 340	Acting	03
50	MED 225	Basic Drawing and Design	03
51	MED 226	AI and Media	03

Arts and Humanities Electives General Education Courses

52	HSS 330	Physical Education & Sports	02
53	HSS 109	Arabic	02
54	HSS 163	Chinese	02
55	HSS 160	French	02
56	HSS 164	German	02
57	HSS 161	Russian	02
58	HSS 162	Spanish	02
59	HSS 214	Turkish	02

BS Media Studies Minor (12 Credit Hours)

Minor 1	Electronic Media
Minor 2	Media Management
Minor 3	Advertising and Public Relations

Minor 4	Film & Performing Arts
Minor 5	Animation

1. Electronic Media – Minor Courses			
S#	Code	Title	CHs
1	MED 415	Television Journalism	03
2	MED 416	News writing and production	03
3	MED 419	Documentary Production	03
4	MED 422	Music video production	03
5	MED 424	Storyboarding	03
6	MED 409	Data Journalism	03
7	MED 412	Multimedia Journalism	03
8	MED 414	Peace Journalism	03
9	MED 423	Product Development	03

2. Media Management – Minor Courses			
S#	Code	Title	CHs
1	MED 455	Media Management and Marketing	03
2	MED 423	Product Development	03
3	MED 457	Integrated Marketing Communication	03
4	MGT 130	Management	03
5	HRM 353	Human Resource Management	03
6	ENG 243	Business Communication Skills	03
3. Advertising and Public Relations			
S#	Code	Title	CHs
1	MED 430	Media Planning & Buying	03
2	MED 431	Campaign Designing	03
3	MED 432	Market Research	03
4	MED 433	TVC Production	03
5	MED 429	Copy Writing	03
6	MED 435	Advertising Strategy & Planning	03
7	MED 437	2D/3D Animation	03
8	MED 438	Brand Management	03
9	ADM 439	Digital Advertising	03
10	MED 442	Crisis Communication and Management	03
11	MED 442	Event Management	03
12	MED 443	Media Management & Relations	03

4. Animation (ANM)			
S#	Code	Title	CHs
1	MED 449	Character Modeling	03
2	MED 450	3D Modeling	03
3	MED 425	3d Lighting/ Texturing/ Rendering	03
4	MED 426	Character Animation	03
5	MED 421	Motion Graphic/ Compositing	03
6	MED 436	Advanced Free Hand Drawing	03
7	MED 452	Digital Illustrations	03
8	MED 453	3D Animation	03
9	MED 454	3D Character Animation	03
10	MED 429	Virtual Reality	03

5. Film & Performing Arts			
S#	Code	Title	CHs
1	MED 354	Film & Screen Adaptation	03
2	MED 355	New Media and Cinema	03
3	MED 458	Contemporary Film Movements and Auteurs	03
4	MED 459	Multidisciplinary Performing Arts	03
5	MED 460	Acting and Performance Techniques	03
6	MED 461	Contemporary Music and Soundscapes in Performing Arts	03
7	MED 420	Film Direction	03

Internship

Sr. #	Course Code	Course Title	Course Category	CHs
1	SDW 496	Internship	Internship	03

- Students are eligible for a 3 CHs 6-8 weeks Internship after the 4th Semester.

Total Credit Hours 132 (including capstone project and Internship)

Community Support Program:

Students will be required to complete 40 hours of the Mandatory Community Support Program as per BU rules.

Bachelor of TV Broadcasting & Digital Media

Program Title: BS (TV Broadcasting & Digital Media)

Duration: 4 Years (8 Semesters)

Eligibility Criteria: All candidates who have passed the intermediate examination or its equivalent with a minimum of 50% marks in any discipline can apply for admission to BS TV Broadcasting & Digital Media.

Road Map of BS (TV Broadcasting & Digital Media)

Semester 1

S#	Course Code	Course Title	Credit Hours
1	ENG 101	Functional English	03
2	MED 109	Computer Skills for Mass Communication	03
3	MTB 109	Introduction to Television	03
4	ENV 105	Introduction to Environmental Sciences	03
5	PAK 105	Pakistan Studies	02
6		Elective*	03
7	ISL 107	Tajweed	Non-Credited

Semester 2

S#	Course Code	Course Title	Credit Hours
1	ENG 133	Writing & Presentation Skills	03
2	HSS 112	Introduction to Political Science	03
3	MTB 108	News Writing & Reporting in Broadcast Journalism	03
4	MAT 105	Mathematics	03
5	ISL 100	Islamic Studies / Ethics	02
6		Elective*	03
7	ISL 108	Understanding Quran-I	Non-Credited

Semester 3

S#	Course Code	Course Title	Credit Hours
1	HSS 331	Fundamentals of International Relations	02
2	HSS 102	Introduction to Philosophy	03
3	MAT 205	Statistics	03
4	MED 113	Introduction to Film Studies	03

5		Elective (Arts & Humanities)	02
6		Elective*	03
7	PAK 109	Ideology and Constitution of Pakistan	02
8	ISL 109	Understanding Quran-II	Non-Credited

Semester 4			
S#	Course Code	Course Title	Credit Hours
1	HSS 423	Entrepreneurship	02
2	CCE 310	Civics and Community Engagement	02
3	HSS 334	Fundamentals of Sociology	03
4	MTB 317	Videography	03
5	ENV 112	Introduction to Psychology	03
6		Elective*	03
7	ISL 110	Understanding Quran-III	Non-Credited

Semester 5			
S#	Course Code	Course Title	Credit Hours
1	MTB 313	Graphic Designing & Visual Communication	03
2	MTB 319	Introduction to Theater	03
3	MTB 215	Digital Marketing & Public Relations	03
4	MED 208	Introduction to Digital Media	03
5	MTB 313	Elective*	03
6	ISL 111	Understanding Quran-IV	Non- Credited

Semester 6			
S#	Course Code	Course Title	Credit Hours
1	MED 455	Media Management and Marketing	03
2	MED 409	Data Journalism	03
3	MTB 314	TV Program Production	03
4	MTB 309	TV News Production & Presentation	03
5		Elective*	03
6	ISL 112	Understanding Quran-V	Non-Credited

Semester 7			
S#	Course Code	Course Title	Credit Hours
1	MTB 418	Mass Media Research Methods	03
2	MTB 402	Documentary Production	03

3	MTB 415	Digital Media Analytics	03
4	MTB 320	Screenplay Writing	03
5		Elective*	03
6	ISL 113	Seerah-I	Non- Credited

Semester 8			
S#	Course Code	Course Title	Credit Hours
1	MTB 421	Podcast Development & Production	03
2	MTB 416	Digital Storytelling	03
3	MTB 409	Capstone Project	03
4	MTB 403	Drama Production	03
5		Elective*	03
6	ISL 114	Seerah-II	Non-credited

Gen Education Courses			
S#	Course Code	Course Title	Credit Hours
1	HSS 331	Fundamentals of International Relations	02
2	ENV 105	Introduction to Environmental Sciences	03
3	MAT 105	Mathematics	03
4	MAT 205	Statistics	03
5	MED 109	Computer Skills for Mass Communication	03
6	ENG 101	Functional English	03
7	ENG 133	Writing & Presentation Skills	03
8	ISL 100	Islamic Studies / Ethics	02
9	PAK 105	Pakistan Studies	02
10	HSS 219	Civics and Community Engagement	02
11	HSS 423	Entrepreneurship	02
Arts and Humanities Electives General Education Courses			
12	HSS 330	Physical Education & Sports	02
53	HSS 109	Arabic	03
54	HSS 163	Chinese	03
55	HSS 160	French	03
56	HSS 164	German	03
57	HSS 161	Russian	03
58	HSS 162	Spanish	03
59	HSS 214	Turkish	03

Interdisciplinary Courses			
S#	Course Code	Course Title	CHs
1	ENV 112	Introduction to Psychology	03
2	HSS 112	Introduction to Political Science	03
3	HSS 102	Introduction to Philosophy	03
4	HSS 334	Fundamentals of Sociology	03

BS TV BROADCASTING AND DIGITAL MEDIA Courses to be offered in Major Core Category			
S#	Course Code	Course Title	CHs
1	MTB 109	Introduction to Television	03
2	MED 208	Introduction to Digital Media	03
3	MTB 108	News Writing & Reporting in Broadcast Journalism	03
4	MED 113	Introduction to Film Studies	03
5	MTB 317	Videography	03
6	MTB 215	Digital Marketing & Public Relations	03
7	MTB 320	Screenplay Writing	03
8	MTB 313	Graphic Designing & Visual Communication	03
9	MED 455	Media Management and Marketing	03
10	MED 409	Data Journalism	03
11	MTB 314	TV Program Production	03
12	MTB 309	TV News Production & Presentation	03
13	MTB418	Mass Media Research Methods	03
14	MTB 402	Documentary Production	03
15	MTB 415	Digital Media Analytics	03
16	MTB 319	Introduction to Theater	03
17	MTB 421	Podcast Development & Production	03
18	MTB 416	Digital Storytelling	03
19	MTB 403	Drama Production	03

LIST OF ELECTIVE COURSES			
S #	Course Code	Course Title	CH
1	MTB 104	Mass Media in Pakistan	03
2	MED 401	Online Journalism	03
3	MED 404	Development Support Communication	03
4	MED 207	Social Psychology	03
5	MTB 208	Comparing Media Systems	03

6	MTB 205	International Media Regulations	03
7	MTB 204	Writing for Internet	03
8	MED 306	Photojournalism	03
9	MED 437	2D/3D Animation	03
10	MTB 310	Television Commercial (TVC)	03
11	MTB 405	Television Program Analysis (Seminar)	03
12	MTB 410	Media Semiotics	03
13	MTB 411	Introduction to Film Making and Analysis	03
14	MTB 412	Electronic News Gathering (ENG)	03
15	MTB 413	Music Video Creation (MVC)	03
16	MTB 209	Evolution of Television	03
17	MTB 302	Process & Effects of Communication	03
18	MTB 311	Media & Social Psychology	03
19	MTB 404	TV & Globalization	03
20	MTB 414	Film and Cinematography	03
21	MED 110	Photography	03
22	MED 308	Video Editing	03
23	MED 315	Sound Design	03
24	MTB 213	Introduction to Digital Gaming	03
25	MTB 304	Television Lighting System	03
26	MTB 417	TV Post Production	03
27	MTB 401	TV Studio & Floor Management	03
28	MTB 315	Television, Digital Media & Society	03
29	MTB 422	Film Analysis	03
30	MTB 420	Media Entrepreneurship	03
31	MTB 419	Digital Media Literacy	03
32	MED 448	Intercultural Communication	03
33	MED 209	Journalistic Language	03
34	MTB 312	Set Designing	03
35	MTB 316	Web Designing	03
36	MED 309	World Cinema	03
37	MED 206	Current Affairs	03
38	MED 303	Mass Communications Theories	03
39	MED 403	Media Laws and Ethics	03
40	MTB 330	Immersive Media	03
41	MTB 331	Environmental Communication	03
42	MTB 332	Visual Effects	03
43	MTB 333	Social Media and Society	03
44	MTB 426	Digital Journalism	03
45	MTB 434	Multimedia Skills	03

BS TV Broadcasting & Digital Media Minor (12 Credit Hours)	
Minor 1	Electronic Media
Minor 2	Media Management
Minor 3	Advertising and Public Relations
Minor 4	Animation

1. Electronic Media – Minor Courses			
S#	Code	Television Journalism	03
1	MED 415	News writing and production	03
2	MED 416	Documentary Production	03
3	MED 419	Music video production	03
4	MED 422	Storyboarding	03
5	MED 424	Data Journalism	03
6	MED 409	Multimedia Journalism	03
7	MED 412	Peace Journalism	03
8	MED 414	Product Development	03
9	MED 423	Television Journalism	03
2. Media Management – Minor Courses			
S#	Code	Title	Credit hours
1	MED 455	Media Management and Marketing	03
2	MED 423	Product Development	03
3	MED 457	Integrated Marketing Communication	03
4	HRM 353	Human Resource Management	03
5	ENG	Business Communication Skills	03
3. Advertising and Public Relations – Minor Courses			
S#	Code	Title	Credit Hours
1	MED 430	Media Planning & Buying	03
2	MED 431	Campaign Designing	03
3	MED 432	Market Research	03
4	MED 433	TVC Production	03
5	MED 634	Copy Writing	03
6	MED 435	Advertising Strategy & Planning	03
7	MED 437	2D/3D Animation	03
8	MED 438	Brand Management	03
9	ADM 439	Digital Advertising	03
10	MED 442	Crisis Communication and Management	03

11	MED 442	Event Management	03
12	MED 443	Media Management & Relations	03
Animation			
01	MED 449	Character Modeling	03
02	MED 450	3D Modeling	03
03	MED 451	3D Lighting / Texturing / Rendering	03
04	ANM 622	Character Animation	03
05	MED 421	Motion Graphic/ Compositing	03
06	MED 436	Advanced Free Hand Drawing	03
07	MED 452	Digital Illustrations	03
08	MED 453	3D Animation	03
09	MED 454	3D Character Animation	03
10	MED 729	Virtual Reality	03

Total Credit hours for Major Courses + Capstone Project + Inter Disciplinary + Gen Ed = 131+ 12 (Minor)= 143

*Students are eligible for a 3 CHs 6-8 weeks Internship after the 4th Semester preferably during summer Break

***Total Credit Hours 131 (including capstone project and Internship)**

Community Support Program:

Students will be required to complete 40 hours of the Mandatory Community Support Program as per BU rules.

MS Media Studies

Program Title: MS Media Studies

Duration: 2 years (4 Semesters)

Eligibility Criteria: 16 years of education with Bachelors/ equivalent degree from HEC-recognized university in Media Studies/Social Sciences discipline with the minimum CGPA of 2.0/4.0 or 50% marks where CGPA is not given.

Semester-wise Road map

Semester 1

S.#	Course Code	Course Title	Credit Hours
1	MSM 700	Theories of Traditional Media	3
2	MSM 708	Research Methods in Traditional Media	3
3		Elective -I	3
4		Elective -II	3

Semester 2

S.#	Course Code	Course Title	Credit Hours
1	MSM 701	Social Media Theories	3
2	MSM 703	Social Media Research Methods	3
3	MSM 707	Contemporary issues and Challenges in Communication	3
4		Elective-III	3

Semester 3

S.#	Course Code	Course Title	Credit Hours
1		Thesis/Final Project/Courses	3

Semester 4

S.#	Course Code	Course Title	Credit Hours
1		Thesis/Final Project/Courses	3

List of Elective Courses

S.#	Course Code	Course Title	Credit Hours
1	MSM 710	Social Media and Society	3
2	MSM 704	Global Communication	3
3	MSM 705	Media Landscape in Pakistan	3
4	MSM 706	Peace Communication	3
5	MSM 713	Communication, Activism and Social Change	3
6	MSM 712	Philosophical debates in social sciences	3
7	MSM 721	Critical Journalism Studies	3
8	MSM 714	Health Communication	3

9	MSM 715	Climate Communication	3
10	MSM 718	Debates in Political Communication	3
11	MSM 717	Media Culture and Society: A Critical Analyses	3
12	MSM 719	Film Studies: A Comparative and Critical Analysis	3
13	MSM 720	Human Rights Communication	3
14	MSM 723	Gender in Media and Communication	3
15	MSM 724	Environmental Communication	3
16	MSM 722	Science Communication	3
17	MSM 716	Communication and Technology	3
18	MSM 725	Digital Media Analytics	3
19	MSM 726	Cinematography: The Art of Visual Storytelling	3
20	MSM 727	Disaster Communication	3
21	MSM 728	Advertising and Brand Strategy	3
22	MSM 729	Mobile Media and Communication	3
23	MSM 730	Strategic Communication	3
24	MSM 731	Digital Media and Society	3
25	MSM 732	Media and Public Diplomacy	3
26	MSM 799	Final Project	6
27	MED 742	AI, Media and Society	3
28	MED 741	Digital Media Production	3
29	MED 740	Media Economics	3

List of Core Courses

S.#	Course Code	Course Title	Credit Hours
1	MSM 700	Theories of Traditional Media	3
2	MSM 702	Research Methods in Traditional Media	3
3	MSM 701	Social Media Theories	3
4	MSM 703	Social Media Research Methods	3
5	MSM 707	Contemporary issues and Challenges in Communication	3

List of Deficiency Courses

S.#	Course Code	Course Title	Credit Hours
1	MSM 600	Introduction to Mass communication	3
2	MSM 601	Approaches to Mass Communication	3
3	MSM 602	Media and society	3
4	MSM 603	Introduction to Research Methods	3

PhD Media Studies

Program Title: PhD Media Studies

Duration: 3 Years

Eligibility Criteria: 18 year of education (MS/MPhil/equivalent degree) in relevant discipline from an HEC recognized university with a minimum CGPA of 3.00/4.00 (Semester System) or 60% marks (Annual System). NTS-GAT (General) or GRE (General) Test passed with minimum 60% marks or BU Admission Test (60% passing marks). Initial Research Proposal/Statement of Purpose is required at the time of PhD admission.

Road Map of PhD Media Studies

Semester-1		
Course Code	Subject	Credit Hours
MSM 818	Applied Research Methods in Communication	3
MSM 819	Contemporary Debates in Communication	3
-	(Elective)* 1	3
Semester-2		
Course Code	Subject	Credit Hours
MSM 820	Computational Communication Research in Media Sciences	3
MSM 821	Theories of Emerging Media and Communication	3
-	(Elective)*2	3
Semester-3		
Course Code	Subject	Credit Hours
-	Comprehensive exam	0
THS 900	Phd Thesis	9

Semester-4		
Course Code	Subject	Credit Hours
THS 900	PhD thesis	9
Semester-5		
Course Code	Subject	Credit Hours
THS 900	PhD thesis	9
Semester-6		
Course Code	Subject	Credit Hours
THS 900	PhD thesis	9
Compulsory Courses		
Course Code	Subject	Credit Hours
MSM 818	Applied Research Methods in Communication	3
MSM 819	Contemporary Debates in Communication	3
MSM 820	Computational Communication Research in Media Sciences	3
MSM 821	Theories of Emerging Media and Communication	3
Elective Courses		
Course Code	Subject	Credit Hours
MSM 806	Political Communication	3
MSM 818	Social Media and Society	3
MSM 819	Communication and Technology	3

MSM 820	Critical Perspectives in Communication	3
MSM 813	Media and Globalization	3
MSM 821	Communication for Development	3
MSM 822	Communication, Activism and Social Change	3
MSM 823	Media and Diplomacy	3
MSM 824	Visual Communication	3
MSM 825	Environmental Communication	3
MSM 826	Communication Theories	3
MSM 827	Minorities in Mass Media	3
MSM 828	Gender, Media and Society	3
MED 832	Digital Media and Emerging Technology	3
MED 833	Visual Communication in Media Studies	3
MED 831	Media and Public Opinion	3

Advanced Diploma in Infant, Child and Adolescent Mental Health

Important for all candidates

Applicant for admission MUST MEET THE ELIGIBILITY REQUIREMENTS set-forth by Bahria University.

Candidates are advised to CONFIRM THEIR ELIGIBILITY prior apply.

In case of annual system, eligibility will be determined on the basis of result in percentages.

In case of semester system, eligibility will be determined on the basis of CGPA obtained out of 4.00.

In case the result is shown both in CGPA and percentage, CGPA will be considered.

Advanced Diploma in Infant, Child and Adolescent Mental Health

- Minimum 16 years of education in the relevant field of Psychology with a minimum of 50% marks (in annual system) or CGPA 2.00/4.0 (in semester system).
- BU Admission Test or GAT (General) with minimum 50% marks required at the time of admission.

Semester 1

Course Title	Total Credit Hrs
Child and Adolescent Psychopathology	3
Child and Adolescent Development	3
Psychological Assessment in Child and Adolescent Mental Health	3
Applied Behavior Analysis	3
Total	12

Semester 2

Course Title	Total Credit Hrs
Infant Mental Health and Early Environments	3
CBT with Children and Adolescents	3
Art and Play Therapy with Children and Adolescents	3
Internship	3
Total	12

Coursework = 21

Credit Hours Internship = 03

Credit Hours Total = 24

BS in Psychology

Program Title: BS Psychology
Duration: 4 Years (8 Semesters)
Eligibility Criteria: Intermediate/A-level/Equivalent with at least 50% marks.

Roadmap of BS Psychology

Semester 1

Course Code	Name of Subject	Credit Hours
PSY 107	Introduction to Psychology	3 (3-0)
PSY 501	Schools & Perspectives in Psychology	3 (3-0)
MAT 205	Statistics	3 (3-0)
ENV 100	Fundamentals of Biology	3 (2-1)
ENG 101	Functional English	3 (3-0)
BES 101	Introduction to Computers	3 (2-1)
ISL 107	Tajweed	0 (0-1)

Semester 2

Course Code	Name of Subject	Credit Hours
NEU 332	Neurological Basis of Behavior	3 (3-0)
SOP 105	Introduction to Social Psychology	3 (3-0)
PER 220	Theories of Personality	3 (3-0)
STA 330	Statistical Tools for Social Sciences	3 (3-0)
ENG 102	English Writing Skills	3 (3-0)
PAK 105	Pakistan Studies	2 (2-0)
ISL 108	Understanding Quran I	0 (0-1)

Semester 3

Course Code	Name of Subject	Credit Hours
PSY 502	Experimental Psychology	3 (3-0)
COG 326	Cognitive Psychology	3 (3-0)
PSY 503	Psychology of Gender	3 (3-0)
PSY 504	Ethics in Psychology	3 (3-0)
HSS 130	Introduction to Arts and Design	2 (2-0)
ISL 101/ HSS 116	Islamic Studies / (Ethics for non-Muslim students)	2 (2-0)

PAK 109	Ideology & Constitution of Pakistan	2 (2-0)
ISL 109	Understanding Quran II	0 (0-1)

Semester 4

Course Code	Name of Subject	Credit Hours
PSY 506	Cross Cultural Psychology	3 (3-0)
PSY 507	Developmental Psychology	3 (3-0)
PSY 508	Psychopathology	3 (3-0)
ENV 449	Environmental Psychology	3 (3-0)
HSS 109	Deviant Behavior	2 (2-0)
HSS 423	Entrepreneurship	2 (2-0)
HSS 219	Civics & Community Engagement	2 (2-0)
ISL 110	Understanding Quran III	0 (0-1)

Semester 5

Course Code	Name of Subject	Credit Hours
PSY 509	Psychological Testing	3
PSY 510	Industrial & Organizational Psychology	3 (3-0)
PSY 511	Sports Psychology	3 (3-0)
PSY 512	Clinical Psychology	3 (2-1)
HSS 131	Data Analysis	3 (2-1)
ISL 111	Understanding Quran IV	0 (0-1)

Semester 6

Course Code	Name of Subject	Credit Hours
POS 327	Positive Psychology	3 (3-0)
COU 443	Counseling	3 (2-1)
	Elective – I	3
	Elective – II	3
PSY 515	Academic Writing & Research Methods	3 (3-0)
ISL 112	Understanding Quran V	0 (0-1)
	Total	15

Semester 7

Course Code	Name of Subject	Credit Hours
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FRP 456	Forensic Psychology	3 (3-0)
	Elective – III	3
	Elective – IV	3
	Interdisciplinary Course – III	3
	Interdisciplinary Course – IV	3
INT 437	Internship	3
ISL 113	Seerah I	0 (0-1)

Semester 8

Course Code	Name of Subject	Credit Hours
PSY 516	Psychology & Emerging Technologies	3 (3-0)
	Elective – V	3
	Elective – VI	3
	Elective – VII	3
RGS 490	Capstone	3
ISL 114	Seerah II	0 (0-1)

List of Electives

Course Code	Course Title
PSY 517	Adult Psychopathology
PSY 518	Child Psychopathology
PSY 519	Cognitive Development & Aging
PSY 520	Neuropsychological Assessment
PSY 521	Cognitive Development in Children
PSY 522	Social & Emotional Development in Childhood
PSY 523	Behavioral Interventions in Educational Settings
PSY 524	Inclusive Education & Diversity
PSY 525	Criminal Profiling & Crime Linkage
PSY 526	Juvenile Delinquency & Rehabilitation
PSY 527	Community, Culture & Public Health
PSY 528	Nutrition & Mental Health
PSY 529	Career Development & Training
HRM 353	Human Resource Management

List of Interdisciplinary Electives

Course Codes	Course Title
HSS 132	Conflict Studies & Peacebuilding

HSS 133	Human Rights & Social Justice
HSS 201	Introduction to Anthropology
HSS 134	Introduction to Cultural Anthropology
HSS 135	Introduction to Cultural Studies
HSS 110	Introduction to Development Studies
HSS 136	Introduction to Digital Cultures
HSS 117	Introduction to Economics
HSS 137	Introduction to Environmental Studies
HSS 138	Introduction to Gender Studies
HSS 139	Introduction to Geography
HSS 140	Introduction to Global History
HSS 141	Introduction to Human Geography
HSS 142	Introduction to Media Psychology
HSS 102	Introduction to Philosophy
HSS 322	Introduction to Social Work
HSS 202	Introduction to Sociology
HSS 143	Population Studies
ENV 507	Sustainable Development
HSS 144	Technology & Society

BS in Psychology (Clinical Psychology)

Program Title:	BS Psychology (Clinical Psychology)
Duration:	4 Years (8 Semesters)
Eligibility Criteria:	Intermediate/A-level/Equivalent with at least 50% marks.
Eligibility Criteria at BULC:	Intermediate/A-level/Equivalent with at least 45% marks.

Roadmap for BS in Psychology (Clinical)

Semester 1

Course Code	Name of Subject	Credit Hours
PSY 107	Introduction to Psychology	3 (3-0)
PSY 501	Schools & Perspectives in Psychology	3 (3-0)
MAT 205	Statistics	3 (3-0)
ENV 100	Fundamentals of Biology	3 (2-1)
ENG 101	Functional English	3 (3-0)
BES 101	Introduction to Computers	3 (2-1)
ISL 107	Tajweed	0 (0-1)

Semester 2

Course Code	Name of Subject	Credit Hours
NEU 332	Neurological Basis of Behavior	3 (3-0)
SOP 105	Introduction to Social Psychology	3 (3-0)
PER 220	Theories of Personality	3 (3-0)
STA 330	Statistical Tools for Social Sciences	3 (3-0)
ENG 102	English Writing Skills	3 (3-0)
PAK 105	Pakistan Studies	2 (2-0)
ISL 108	Understanding Quran I	0 (0-1)

Semester 3

Course Code	Name of Subject	Credit Hours
PSY 502	Experimental Psychology	3 (3-0)
COG 326	Cognitive Psychology	3 (3-0)
PSY 503	Psychology of Gender	3 (3-0)
PSY 504	Ethics in Psychology	3 (3-0)
HSS 130	Introduction to Arts and Design	2 (2-0)

ISL 101/ HSS 116	Islamic Studies / (Ethics for non-Muslim students)	2 (2-0)
PAK 109	Ideology & Constitution of Pakistan	2 (2-0)
ISL 109	Understanding Quran II	0 (0-1)

Semester 4

Course Code	Name of Subject	Credit Hours
PSY 506	Cross Cultural Psychology	3 (3-0)
PSY 507	Developmental Psychology	3 (3-0)
PSY 508	Psychopathology	3 (3-0)
ENV 449	Environmental Psychology	3 (3-0)
HSS 109	Deviant Behavior	2 (2-0)
HSS 423	Entrepreneurship	2 (2-0)
HSS 219	Civics & Community Engagement	2 (2-0)
ISL 110	Understanding Quran III	0 (0-1)

Semester 5

Course Code	Name of Subject	Credit Hours
PSY 509	Psychological Testing	3
PSY 510	Industrial & Organizational Psychology	3 (3-0)
PSY 511	Sports Psychology	3 (3-0)
PSY 512	Clinical Psychology	3 (2-1)
HSS 131	Data Analysis	3 (2-1)
ISL 111	Understanding Quran IV	0 (0-1)

Semester 6

Course Code	Name of Subject	Credit Hours
POS 327	Positive Psychology	3 (3-0)
COU 443	Counseling	3 (2-1)
	Elective – I	3
	Elective – II	3
PSY 515	Academic Writing & Research Methods	3 (3-0)
ISL 112	Understanding Quran V	0 (0-1)

Semester 7

Course Code	Name of Subject	Credit Hours
FRP 456	Forensic Psychology	3 (3-0)

	Elective – III	3
	Elective – IV	3
	Interdisciplinary Course – III	3
	Interdisciplinary Course – IV	3
INT 437	Internship	3
ISL 113	Seerah I	0 (0-1)

Semester 8

Course Code	Name of Subject	Credit Hours
PSY 516	Psychology & Emerging Technologies	3 (3-0)
	Elective – V	3
	Elective – VI	3
	Elective – VII	3
RGS 490	Capstone	3
ISL 114	Seerah II	0 (0-1)

List of Electives

Course Codes	Course Title
PSY 517	Adult Psychopathology
PSY 518	Child Psychopathology
PSY 543	Clinical Assessment & Diagnosis
PSY 544	Clinical Supervision & Consultation
PSY 545	Crisis Intervention & Management
PSY 546	Ethical Issues in Clinical Practice
PSY 547	Psychoanalysis & Psychodynamic Approaches
PSY 548	Psychological Interventions & Therapies
PSY 549	Psychopharmacology in Clinical Practice
PSY 550	Substance Use Disorders & Management

List of Interdisciplinary Electives

Course Codes	Course Title
HSS 132	Conflict Studies & Peacebuilding
HSS 133	Human Rights & Social Justice
HSS 201	Introduction to Anthropology

HSS 134	Introduction to Cultural Anthropology
HSS 135	Introduction to Cultural Studies
HSS 110	Introduction to Development Studies
HSS 136	Introduction to Digital Cultures
HSS 117	Introduction to Economics
HSS 137	Introduction to Environmental Studies
HSS 138	Introduction to Gender Studies
HSS 139	Introduction to Geography
HSS 140	Introduction to Global History
HSS 141	Introduction to Human Geography
HSS 142	Introduction to Media Psychology
HSS 102	Introduction to Philosophy
HSS 322	Introduction to Social Work
HSS 202	Introduction to Sociology
HSS 143	Population Studies
ENV 507	Sustainable Development
HSS 144	Technology & Society

MPhil in Professional Psychology

Program Title: MPhil (Professional Psychology)

Duration: 2 Years (4 Semesters)

Eligibility Criteria: Minimum 16 years of education in the relevant field of Psychology with a minimum of 50% marks (in annual system) or CGPA 2.0/4.0 (in semester system). BU Admission Test or GAT (General) with minimum 50% marks required at the time of admission.

Semester wise Roadmap

First Year

Semester 1

Course Code	Course Title	Credit Hours
PPY 702	Research Methods	3
PPY 703	Measurement and Assessment I	3
	Elective I	3
	Elective II	3

Semester 2

Course Code	Course Title	Credit Hours
PPY 710	Statistical Inferences in Psychology	3
PPY 711	Measurement and Assessment II	3
	Elective III	3
	Elective IV	3

Summer Semester

Course Code	Course Title	Credit Hours
PPY 719	Internship I	-

Semester 3

Course Code	Course Title	Credit Hours
PPY 720	Internship II	6
THS 799	Thesis	3

Semester 4

Course Code	Course Title	Credit Hours
PPY 721	Internship III	6
THS 799	Thesis	3

Elective Courses (**Clinical Psychology**) **04** courses shall be chosen as per advice of the supervisor.

Course Code	Electives Course	Credit Hours
PPY 704	Classical Approaches to Psychotherapies	3
PPY 707	Neurophysiology	3
PPY 712	Contemporary Approaches to Psychotherapy	3
PPY 715	Pharmacology	3
PPY 722	Cognitive Behavioural Therapy	3
PPY 723	Humanistic and Existential Therapies	3

Elective Courses (**Educational Psychology**) **04** courses shall be chosen as per advice of the supervisor.

Course Code	Elective Courses	Credit Hours
PPY 705	Theories of Counselling	3
PPY 708	Patterns of Child Rearing and Development of Personality	3
PPY 724	Educational Coaching and Consultancy	3
PPY 725	Educational Neuroscience	3
PPY 726	Cognitive Behavioural Therapies for Children and Adolescents	3
PPY 727	Group Process in Educational Settings	3

Elective Courses (**Organizational Psychology**) **04** courses shall be chosen as per advice of the supervisor.

Course Code	Elective Courses	Credit Hours
PPY 706	Vocational Guidance and Counselling	3
PPY 709	Personnel Selection and Job analysis	3
PPY 717	Organizational Leadership and Marketing	3
PPY 728	Organizational Consulting Skills	3
PPY 729	Human Factors in Work Environment	3
PPY 730	Organizational Development and Change	3

MS in Clinical Psychology

Program Title: MS Clinical Psychology

Duration: 2 Years (4 semesters)

Eligibility Criteria: Minimum 16 years of education in the relevant field of Psychology with a minimum of 50% marks (in annual system) or CGPA 2.0/4.0 (in semester system). BU Admission Test or GAT (General) with minimum 50% marks required at the time of admission.

Semester wise Roadmap

Semester 1

Course Code	Course Title	Credit Hours
CPY 758	Advanced Theories of Psychology	3
	Elective I	3
	Elective II	3
	Elective III	3

Semester 2

Course Code	Course Title	Credit Hours
CPY 701	Advanced Research Methods in Psychology	3
	Elective IV	3
	Elective V	3
	Elective VI	3
CPY 754	Internship I	2

Semester 3

Course Code	Course Title	Credit Hours
CPY 758	Internship II	2
THS 799	Thesis	3

Semester 4

Course Code	Course Title	Credit Hours
CPY 759	Internship III	2
THS 799	Thesis	3

List of Elective Courses

Semester 1

CPY 759	Applied Behavioural Analysis	3
PPY 750	Humanistic and Existential Therapies	3
CPY 760	Psychopathology	3
CPY 761	Psychological Assessment	3
CPY 762	Neurological Basis of Behaviour	3
CPY 763	Ethics and Professional Issues	3

Semester 2

PPY 722	Cognitive Behavioural Therapy	3
CPY 748	Personality Assessment	3
CPY 764	Psychopharmacology	3
CPY 749	Psychodynamic Therapies	3
CPY 750	Psychopathology and Psychotherapies of Children/ Adolescents	3

PhD in Professional Psychology

Program Title: PhD in Professional Psychology

Duration: 3 Years (6 Semesters)

Eligibility Criteria: 18 years of education in Clinical Psychology or relevant field of Psychology including clinical internship and course contents from an HEC-recognized university with a minimum CGPA of 3.00/4.00 (Semester System) or 60% marks (Annual System).

NTS-GAT (General) or GRE (General) Test passed with minimum 60% marks or BU Admission Test (60% passing marks).

An initial Research Proposal/Statement of Purpose is required at the time of Ph.D. admission.

Semester wise Roadmap

First Year

Semester 1

Course Code	Course Title	Credit Hours
PPY 801	Advanced Quantitative Research and Research Ethics	3
	Elective I	3
	Elective II	3

Semester 2

Course Code	Course Title	Credit Hours
PPY 810	Advanced Qualitative Research and Research Ethics	3
	Elective III	3
	Elective IV	3

Summer Semester

Course Code	Course Title	Credit Hours
PPY 819	Internship I	9

Second Year

Semester 3

Course Code	Course Title	Credit Hours
PPY 820	Internship II	3

THS 900	Thesis	9
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Semester 4

Course Code	Course Title	Credit Hours
PPY 821	Internship III	3
THS 900	Thesis	9

Third Year

Semester 5

Course Code	Course Title	Credit Hours
PPY 822	Internship IV	3
THS 900	Thesis	9

Semester 6

Course Code	Course Title	Credit Hours
THS 900	Thesis	9
PPY 823	Didactic Analysis / Professional Training	3

Elective Courses (**Clinical Psychology**). **04** courses shall be chosen as per advice of the supervisor.

Course Code	Elective Courses	Credit Hours
PPY 804	Expressive Art Therapy	3
PPY 813	Complementary and Alternative Healing Therapies	3
PPY 836	Psychological Rehabilitation	3
PPY 837	Hypnotherapy	3
PPY 838	Group Psychotherapy	3
PPY 839	System/Family Therapy	3
PPY 840	Diversity in Assessment and Intervention	3
PPY 841	Clinical Consultation and Supervision	3

Elective Courses (**Educational Psychology**) **04** courses shall be chosen as per advice of the supervisor.

Course Code	Elective Courses	Credit Hours
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PPY 806	Vocational Guidance	3
PPY 815	Educational Counselling	3
PPY 817	Psychotherapy with Children and Adolescents	3
PPY 842	Learning Process in Relation to Educational Practices	3
PPY 843	Instructional Systems Design	3
PPY 844	Developmental Issues in Instruction	3
PPY 845	Creativity For Teachers	3
PPY 846	Diversity and Equity Issues in Education	3

Elective Courses (**Organizational Psychology**) **04** courses shall be chosen as per advice of the supervisor.

Course Code	Elective Courses	Credit Hours
PPY 809	Work Team Dynamics	3
PPY 847	Leadership Development and Assessment	3
PPY 848	Diversity, Inclusion and Change	3
PPY 849	Crisis Management	3
PPY 854	Organizational Design and Process Improvement	3
PPY 851	Positive Organizational Psychology	3
PPY 852	Theory and Practice of Counselling	3
PPY 853	HR Strategic Management	3

BACHELOR OF COMPUTER ENGINEERING

The Department of Computer Engineering at Bahria University is home to multidisciplinary research and academic units that address issues and recent advances in Computer Engineering. The department provides research areas and cutting edge facilities in Computer engineering. Our Goal has been, and continues to be, to provide a high degree programme in Computer and Software Engineering, a programme that prepares students for lifelong learning as they take on professional careers in computing.

If you are interested in math, science, and computers, you should consider a degree in computer engineering. Engineers like to innovate, be creative, work in teams, explore how things work, design new products, and solve problems. As computers continue to integrate themselves into our everyday lives there is a need for engineers who understand their principles of operation and how to innovate new applications. Computer engineers continually push the capability and applicability of computers in every industry and every facet of modern life.

Vision Statement

The Computer Engineering Department is committed to prepare students for professional and research activities with an ability to learn independently, within a diverse multi-cultural environment, and enabling them to become global leaders in their respective fields.

Mission Statement

The mission of Bachelor Computer Engineering program is to produce ethically sound and technically competent graduates who can fulfill the evolving needs of academia, industry and society.

Program Educational Objectives (PEOs)

Graduates of Computer Engineering Program are expected to achieve the following Program Educational Objectives for BCE program.

PEO 1: Demonstrate excellence in the profession through in-depth knowledge and skills in the field of Computer Engineering.

PEO 2: Demonstrate effective management and communication skills being an individual or a team member.

PEO 3: Show professional integrity and commitment to social and ethical responsibilities.

PEO 4: Engage in continuous professional development for their personal growth and the betterment of society.

Program Learning Outcomes (PLOs)

The Computer Engineering program prepares students to attain the program educational objectives by ensuring that students demonstrate achievement of the following graduate attributes.

PLO-1 Engineering Knowledge: An ability to apply knowledge of mathematics, computer engineering fundamentals and computer engineering specialization to the solution of complex engineering problems.

PLO-2 Problem Analysis: An ability to identify, formulate, research literature and analyze complex computer engineering problems reaching substantiated conclusions using engineering and natural sciences principles.

PLO-3 Design/Development of Solutions: An ability to design solutions for complex computer engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health & safety, cultural, societal, and environmental considerations.

PLO-4 Investigation: An ability to investigate complex engineering problems in a methodical way including literature survey, design and conduct of experiments, analysis and interpretation of experimental data, and synthesis of information to derive valid conclusions.

PLO-5 Modern Tool Usage: An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations.

PLO-6 The Engineer and Society: An ability to apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solution to complex engineering problems.

PLO-7 Environment and Sustainability: An ability to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.

PLO-8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

PLO-9 Individual and Team Work: An ability to work effectively, as an individual or in a team, on multifaceted and /or multidisciplinary settings.

PLO-10 Communication: Ability to communicate effectively, orally as well as in writing, on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PLO-11 Project Management: Ability to demonstrate management skills and apply engineering principles to one's own work, as a member and/or leader in a team, to manage projects in a multidisciplinary environment.

PLO-12 Lifelong Learning: Ability to recognize importance of, and pursue lifelong learning in the broader context of innovation and technological developments.

Program Title: Bachelor of Computer Engineering (BCE)

Duration: 4 Years

Eligibility Criteria: Passed intermediate examination or its equivalent with a minimum of 60% marks in Pre-Engineering Group, or with Mathematics, Physics and Computer Studies.

Semester-wise Revised Roadmap of BCE

Semester 1

Sr.No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1	None	GSC 110	Applied Calculus & Analytical Geometry	3
2	None	ISL 101 /HSS 116	Islamic Studies / Ethics	2
3	None	CSC 110	Computing Fundamentals	2
4	None	CSL 110	Computing Fundamentals Lab	1
5	None	GSC 113	Applied Physics	3
6	None	GSL 113	Applied Physics Lab	1
7	None	ENG 101	Functional English	3
8	None	EEL 112	Workshop Practices	1
9	None	ISL 107	Tajweed	1 Contact Hour
Total Credit Hours				16

Semester 2

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1	None	GSC 120	Linear Algebra	2
2	GSC 113	CEN 121	Circuit Analysis	3
3	GSC 113	CEL 121	Circuit Analysis Lab	1

4	None	CSC 113	Computer Programming	3
5	None	CSL 113	Computer Programming Lab	1
6	None	PAK 103	Pakistan Studies	2
7	None	ENV 101	Occupational Health & Safety	1
8	None	CEN 120	Digital Logic Design	3
9	None	CEL 120	Digital Logic Design Lab	1
10	None	ISL 108	Understanding Quran - I	0
Total Credit Hours				18

*Only for Muslim students

Semester 3

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1	None	CSC 115	Discrete Structures	3
2	GSC 113	EEN 224	Electronic Devices & Circuits	3
3	GSC 113	EEL 224	Electronic Devices & Circuits Lab	1
4	CSC 113	CSC 210	Object Oriented Programming	3
5	CSC 113	CSL 210	Object Oriented Programming Lab	1
6	None	HSS 118	Communication Skills	2
7	GSC 110	GSC 220	Complex Variables & Transforms	3
8	-	-	Social Science Elective-I	2
9		ISL 109	Understanding Quran- II	0
Total Credit Hours				18

*Only for Muslim students

Semester 4

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1	GSC 110	GSC 210	Differential Equations	3
2	CSC 210	CSC 221	Data Structures & Algorithms	3
3	CSC 210	CSL 221	Data Structures & Algorithms Lab	1
4	None	EEN 313	Signals & Systems	3
5	None	EEL 313	Signals & Systems Lab	1
6	CEN 120	CEN 321	Microprocessors & Interfacing	3
7	CEN 120	CEL 321	Microprocessors & Interfacing Lab	1
8	-	-	MS-Elective-I	3
9		ISL 110	Understanding Quran -III	1 Contact Hour

Total Credit Hours	18
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*Only for Muslim students

Semester 5

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1	CSC 221	CSC 320	Operating Systems	3
2	CSC 221	CSL 320	Operating Systems Lab	1
3	ENG 105	HSS 321	Technical Writing	2
4	CEN 120	CEN 221	Computer Architecture & Organization	3
5	CEN 120	CEL 221	Computer Architecture & Organization Lab	1
6	EEN 313	EEN 325	Digital Signal Processing	3
7	EEN 313	EEL 325	Digital Signal Processing Lab	1
8	None	CEN 223	Computer Communication & Networks	3
9	None	CEL 223	Computer Communication & Networks Lab	1
10		ISL 111	Understanding Quran-IV	1 Contact Hour
Total Credit Hours				18

*Only for Muslim students

Semester 6

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1	-	-	CEDE-I	3+1
2	CSC 210	CSC 220	Database Management Systems	3
3	CSC 210	CSL 220	Database Management Systems Lab	1
4	None	SEN 220	Software Engineering	3
5	None	GSC 122	Probability & Statistics	3
6	-	-	MDEE-I	3+0/2+1
7		ISL 112	Understanding Quran – V	1 Contact Hour
Total Credit Hours				17

Semester 7

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1	CEN 221	CEN 442	Digital System Design	3
2	CEN 221	CEL 442	Digital System Design Lab	1

3	-	-	MS-Elective-II	2
4	-	-	CEDE-II	3+1
5	-	ESC 498	Project-I	3
6	GSC 120	GSC 321	Numerical Analysis	2
7	GSC 120	GSL 321	Numerical Analysis Lab	1
8	None	ISL 113	Seerah – I	1 Contact Hour
		PAK 109	Ideology & Constitution of Pakistan	2
Total Credit Hours				18

Semester 8

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1	-	ESC 499	Project-II	3
2	-	-	CEDE-III	3+1
3	-	-	CEDE-IV	3+1
4	-	-	MDEE-II	3+0/2+1
5	-	-	Social Science Elective-II	2
6		ISL 114	Seerah – II	1 Contact Hour
Total Credit Hours				16

List of Elective Courses

Pre-requisite Course Code	Course Code	Course Title	Credit Hours
None	SEN 320	Human Computer Interaction	3
None	CEN 429	Introduction to Block Chain Technologies	3
None	CSC 449	Neural Networks & Fuzzy Logic	3
EEN 313	CEN 458	Robotics	2+1
None	CEN 426	Introduction to Virtual Reality	3
None	SEN 420	Software Quality Assurance	3
EEN 224	CEN 457	VLSI Design	2+1
None	CSC 457	Data Mining & Warehousing	2+1
None	GEO 437	GIS & Remote Sensing	3
None	GEO 436	Health Safety & Environment	3
None	CEN 427	Biomedical Engineering	3
None	SEN 449	Business Process Automation	3
None	EEN 467	Control Engineering	3
None	SEN 448	Software Applications and Mobile Devices	2+1

SEN 220	CSC 323	Compiler Construction	3
SEN 220	CSC 315	Theory of Automata	3
CSC 320	CEN 411	Cloud & Distributed Computing	3+1
CEN 321	CEN 449	Internet of Things	3+1
CEN 321	CEN 440	Embedded System Design	3+1
EEN 313	CEN 409	Artificial Intelligence & Machine Learning	3+1
EEN 313	CEN 444	Digital Image Processing	3+1
CSC 113	CEN 408	System & Network Security	3+1
CSC 320	CEN 454	System Programming	3+1
CSC 320	CEN 407	High Performance Computing	3+1
CSC 221	CEN 326	Algorithm Design and Analysis	3+1
EEN 325	CEN 425	Hardware Design for DSP & ML	3+1
CEN 442	CEN 462	Hardware Verification	3+1
None	EMG 201	Engineering Project Management	3
None	MGT 423	Engineering Management	3
None	MTM 101	Introduction to Maritime Industry	3
None	EMG 222	Principles of Management	2
None	HSS 423	Entrepreneurship	2
None	HSS 412	Engineering Economics	2
None	HSS 413	Sociology for Engineers	2
None	HSS 424	Engineering Ethics	2
None	HSS 541	Organizational Behavior	2

MS (Computer Engineering)

Program Title: MS CE

Duration: 2 to 3 Years

Total Credit Hours: Four years degree in BS/BSE/BEE/BET/CS/CE/IT/M.Sc Applied Physics/ Electronics/ equivalent with minimum 130 Credit Hours and CGPA 2.00/4.0 (Semester System) or 50% marks (Annual System).

Semester wise Road map

Semester 1

Sr. No.	Pre requisite Course Code	Course Code	Course Title	Credit Hours
1			Core I	3
2			Core II	3
3		ESC 701	Research Methodology	3

Semester 2

Sr. No.	Pre requisite Course Code	Course Code	Course Title	Credit Hours
1			Core III	3
2			Elective I	3
3			Elective II	3

Semester 3

Sr. No.	Pre requisite Course Code	Course Code	Course Title	Credit Hours
1			Elective III	3
2		THS 799	Thesis I / Elective IV	3

Semester 4

Sr. No.	Pre requisite Course Code	Course Code	Course Title	Credit Hours
1			Elective V	3
2		THS 799	Thesis II / Elective VI	3

List of Core Courses

Sr. No.	Pre requisite Course Code	Course Code	Course Title	Credit Hours
1		CEN 720	Advanced Computer Architecture	3
2		CSC 711	Advanced Artificial Intelligence	3
3		CEN 742	Advanced Digital System Design	3

List of Electives Courses

Sr. No.	Pre requisite Course Code	Course Code	Course Title	Credit Hours
1		CSC 751	Pattern Recognition	3
2		CSC 764	Computer Vision	3
3		CSC 719	Machine Learning	3
4		CSC 765	Bio Medical Image Analysis	3
5		CEN 745	Advanced Digital Image Processing	3
6		CEN 740	Advanced Embedded Systems	3
7		EEN 725	Advanced Digital Signal Processing	3
8		CEN 707	Advanced Distributed Systems	3
9		CSC 758	Parallel Processing	3
10		CEN 752	Advanced VLSI System Design	3
11		CEN 721	Advanced Microprocessor Systems	3
12		CEN 753	Design of Real Time Embedded Systems	3
13		EET 710	Advanced Computer Networks	3
14		EET 755	Wireless Communication Techniques	3
15		EET 702	Advanced Network Security	3
16		EET 711	Advanced Digital Communications	3
17		EET 769	Mobile/Vehicular Ad Hoc Networks	3
18		GSC 700	Advanced Engineering Mathematics	3
19		CSC 704	Advanced Cryptography	3
20		SEN 762	Advanced Big Data Analytics	3
21		DSC 707	Deep Learning	3
22		CSC 781	Cloud Computing	3
23		ISC 737	Computer and Network Forensics	3
24		SEN 774	IoTs Architecture, Protocols & Applications	3
25		CSC 720	Advanced Operating Systems	3
26		CEN 758	Robotics and Intelligent Sensors	3

27		CEN 710	Digital Integrated Circuits	3
28		CEN 711	Digital and Analog IC Design	3
29		CEN 759	Generative AI	3
30		CSC 708	Advanced Simulation and Modeling	3
31		CSC 741	Advanced Natural Language Processing	3
32		CSC 746	Advanced Data Mining	3
33		CSC 759	Agent Based Modeling	3
34		EET 730	AI for Internet of Things	3
35		CSC 744	Advanced Computer Graphics	3
36		CSC 753	Distributed Databases	3
37		CSC 760	Advanced Data Warehousing	3
38		SEN 720	Advanced Human Computer Interaction	3
39		SEN 723	Formal Methods and Specifications	3
40		SEN 760	Complex Adaptive Systems	3
41		EET 713	Advanced Network Design	3
42		ISC 712	Computer and Network Security	3
43		ISC 748	Blockchain Essentials	3
44		ISC 721	Advance Cryptography and Cryptanalysis	3

PhD Computer Engineering

Program Title: PhD Computer Engineering

Duration: 3 to 8 Years

Eligibility Criteria: 18 Years Education in the relevant discipline with a minimum CGPA of 3.00/4.00 (Semester System) or 60% marks (Annual System). NTS-GAT (General) or GRE (General) Test passed with minimum 60% marks or BU Admission Test (60% passing marks). Initial Research Proposal/Statement of Purpose is required at the time of PhD admission.

Semester-wise Road map

Semester 1

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1	N/A	ESC 801	Research Methods in PhD Studies	3
2			Elective I	3
3			Elective II	3

Semester 2

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1			Elective III	3
2			Elective IV	3
3			Elective V	3

Semester 3

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

Semester 4

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

Semester 5

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

Semester 6

Sr.No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

List of Electives Courses

Course Code	Course Title	Credit Hours
CEN 807	Distributed Systems Architecture and Design	3
CEN 808	Advanced Techniques in System Modeling and Simulation	3
CEN 821	Microprocessor System Optimization and customization	3
CEN 840	Advanced Embedded System Design	3
CEN 842	Digital Systems Integration and Design	3
CEN 845	Image Analysis and Pattern Recognition	3
CEN 852	Modern Approaches in VLSI System Design	3
CEN 853	Real-Time Systems Engineering & Design	3
CEN 855	Advanced Parallel Processing Computer Systems	3
DSC 807	Advanced Deep Learning	3
CSC 820	Advanced Topics in Operating Systems	3
CSC 819	Research Trends in Machine Learning	3
CSC 851	Advanced Pattern Recognition	3
CSC 864	Advanced Computer Vision	3
CSC 881	Advanced Cloud Computing	3
SEN 820	Emerging Trends in Human Computer Interaction	3
SEN 862	Emerging Trends in Big Data Analytics	3
EET 827	Advanced Wireless Communication Systems	3
EET 831	Modern Digital Communications Systems	3
EET 832	Advance topics in Network Security	3
EET 834	Emerging Trend in Optical Fiber Networks	3
EET 835	Advance Topics in 5G and Beyond Communications	3
EET 850	Wireless Sensor Networks	3
EET 851	Mobile and ad-hoc Networks	3
EEN 824	On-Chip Interconnection Networks	3

EEN 829	Design and Applications of Real Time DSP Systems	3
EEN 831	Statistical Signal Processing	3
CSC 800	Advanced AI Networking	3
CEN 820	Advanced Computer Architecture	3
CEN 854	MOS VLSI Circuit Design	3
EET 836	AI for Future Communication Systems	3
EET 837	Advanced Data Communication Systems	3
EET 829	Optimization Techniques	3
CSC 841	Advanced Computational Linguistics	3
CSC 860	Advanced Complexity Theory and Algorithms	3
DSC 800	Advanced Data Analytics	3
DSC 802	Advanced Data Visualization	3
SEN 810	Secure Software Systems	3
SEN 808	Computer and Cybersecurity	3
SEN 809	Internet of Things: Design and Applications	3
EEN 832	Fuzzy Logic and Neural Network Based Intelligent control systems	3
EEN 833	Advanced Computer vision for Robotics	3
EEN 834	Human-Robot Interaction	3
EEN 835	Medical Devices & Robotics	3
CEN 841	ASIC Design Methodology	3

BS-Environmental Sciences

Program Title: BS Environmental Sciences

Duration: 4 Years

Eligibility Criteria: Passed intermediate with Pre–Medical/Pre–Engineering subjects or A-level/equivalent with at least 50% marks with English, Physics, Chemistry, Mathematics or Biology.

Semester-wise Road map of BS Environmental Sciences

Semester 1

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
ENG 101	Functional English	3 (3-0)	Gen. Edu. Course (Functional English)	4
ENV 104	Principles of Biology	3(3-0)	Interdisciplinary	4, 13, 14, 15
ENV 105	Introduction to Environmental Sciences	3	Major (Disciplinary)	4, 6,7, 8, 11, 13, 14,15
ISL 101	Islamic Studies	2 (2-0)	Gen. Edu. Course (Islamic/Religious Studies)	4, 7,9
GSC 105	Mathematics	3	Gen. Edu. Course (Quantitative Reasoning-I)	4
PHY 103	Physics	2	General Education Course (Natural Sciences)	4
PHL 101	Physics Lab	1		
ISL 107**	Tajweed	0	Gen. Edu. Course (Islamic/Religious Studies)	4,10,16
		17		

*Only for Muslim students

Semester 2

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
GSC 341	Basic Chemistry	3 (3-0)	Interdisciplinary	4
HSS 320	Technical Writing and Presentation Skills	3		
ENV 206	Environmental Statistics	3 (3-0)	Gen. Edu. Course (Quantitative Reasoning-II)	4,11
ICT 301	Applications of ICT	3 (2-1)	Gen. Edu. Course (Applications of Information and Communication Technologies (ICT)	4,9
ICL 301	Applications of ICT (Lab)			
PAK 105	Pakistan Studies	2	Gen. Edu. Course (Ideology & Constitution of Pakistan)	4,10,16
ENV 205	Fundamentals of Ecology	3(3-0)	Major (Disciplinary)	11, 13, 14,15
ISL 203	Fehmul Quran– I*	1(0-1)	Gen. Edu. Course (Islamic/Religious Studies)	4, 10,16
		18		

* Only for Muslim students; For Non-Muslims, any University-approved 02 (or more) credit hours of an Interdisciplinary Course

Semester 3

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
	Arts and Humanities Elective	2	Gen. Edu. Course (Arts and Humanities)	4
HSS 219	Civics and Community Engagement	2	Gen. Edu. Course (Civics and Community Engagement)	16,17
GEO 389	Introduction to Earth Sciences	2	Interdisciplinary	4, 12
ENV 211	Environmental Chemistry	3 (2-1)	Major (Disciplinary)	4,9,11
ENL 211	Environmental Chemistry Lab			
PSY 102	Introduction to Psychology	2	General Education Course (Social Sciences)	4,11
ENV 204	Mineral Resources	3	Major	4, 12
ENV 217	Environmental Physics	3(2-1)	Major (Disciplinary)	4,10,16
ENL 217	Environmental Physics Lab			
		17		

*Only for Muslim students

Semester 4

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
PAK 109	Ideology and Constitution of Pakistan	2	Gen. Edu. Course (Ideology & Constitution of Pakistan)	4,10,16
ENV 363	Water & Wastewater Treatment	3(3-0)	Major (Disciplinary)	3, 4, 6,11
ENV 220	Environmental Microbiology	3(3-0)	Major (Disciplinary)	3, 4, 6, 11, 14,15
HSS 423	Entrepreneurship	2	General Education Course (Entrepreneurship)	4, 11
ENV 309	Applied Ecology	3(2-1)	Major (Disciplinary)	4, 14,15
ENL 309	Applied Ecology Lab			
ENV 311	Environmental Toxicology	3 (2-1)	Major (Disciplinary)	4,14,15
ENL 311	Environmental Toxicology Lab			
ISL 204	Fehm-e-Quran-II*	1 (0-1)	Gen. Edu. Course (Islamic/Religious Studies)	4
		17		

* Only for Muslim students; For Non-Muslims any University approved 02 (or more) credit hours of Interdisciplinary Course

Semester 5

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
ENV 420	Research Methods in Environmental Science	3	Major (Disciplinary)	4
ENV 334	Environmental Economics	2 (2-0)	Interdisciplinary	1, 2, 10, 11,12
ENV 317	Environmental Pollution	3	Major (Disciplinary)	4,8,11
ENV 523	Climate Change	2 (2-0)	Major (Disciplinary)	4, 13
ENV 336	Analytical Techniques in Environmental Sciences	3 (2-1)	Major (Disciplinary)	4,9,11
ENL 336	Analytical Techniques in Environmental Sciences Lab			
GEO 438	GIS & Remote Sensing	3 (2-1)	Major (Disciplinary)	4,13,15
GEL 438	GIS & Remote Sensing Lab			
		16		

Semester 6

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
ENV 340	Solid Waste Management	3 (3-0)	Major (Disciplinary)	3, 4,6, 9,11
ENV 368	Disaster Risk Management	3 (3-0)	Major (Disciplinary)	3, 4, 9, 11
ENV 352	Environmental Sciences Field Work	3	Field Experience	4, 9,13,15, 17
ENV 316	Environmental Management Systems	3 (2-1)	Major (Disciplinary)	4, 8, 11
ENL 316	Environmental Management Systems Lab			
-	Elective-I	3	Major (Disciplinary)	As per list of Electives
	Elective-II	3	Major (Disciplinary)	As per list of Electives
		18		

Semester 7

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
ENV 507	Sustainable Development	3	Interdisciplinary/Allied courses	4,8,11
CSC 465	AI & Emerging Technologies in Environmental Science	3(2-1)	Major (Disciplinary)	4, 8, 9, 11,12
CSL 465	AI & Emerging Technologies in Environmental Science Lab			
GEO 385	Biodiversity & Conservation	3(3-0)	Major (Disciplinary)	4, 14, 15
	Elective-III	3	Major (Disciplinary)	-
	Elective-IV	3	Major (Disciplinary)	As per list of Electives
ISL 113*	Seerah - I	0	(1 Contact Hour)	
		15		

Semester 8

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
ENV 427	Health, Safety & Environmental Management	3 (3-0)	Interdisciplinary	3, 4, 8, 12,13, 14
ENV 443	Environmental Governance	2 (2-0)	Major (Disciplinary)	3, 4, 11, 15
	Elective-V	3	Major (Disciplinary)	As per list of Electives
	Elective-VI	3	Major (Disciplinary)	
	Elective-VII	3	Major (Disciplinary)	
RGS 490	Capstone Project	3	(Capstone Project)	4,9, 11,17
ISL 114*	Seerah - II	0	(1 Contact Hour)	
		17		

*Only for Muslim students

List of Elective Courses

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
Courses for Elective - I				
ENV 230	Environmental Issues	3	Elective (Disciplinary)	ENV 230

ENV 361	Natural Resource Management	3	Elective (Disciplinary)	3, 6, 7, 8, 11
ENV 215	Social Theory of Environment	3	Elective (Disciplinary)	4, 11, 15
Courses for Elective - II				
GEO 386	Soil and Environment	3	Elective (Disciplinary)	4,7,9,15
ENV 537	Environmental Engineering	3	Elective (Disciplinary)	3,4,8
ENV 305	Environmental Monitoring	3	Elective (Disciplinary)	4,13,15
Courses for Elective - III				
ENV 425	Occupational Health & Safety	3	Elective (Disciplinary)	4,9,11
GEO 351	Natural Disaster Management	3	Elective (Disciplinary)	4, 9, 11
ENV 325	Water Resources Management	3	Elective (Disciplinary)	ENV 461
Courses for Elective - IV				
ENV 524	Air & Noise Pollution	3	Elective (Disciplinary)	4,9,11
ENV 465	Public health and Environment	3	Elective (Disciplinary)	4,9,11
ENV 412	Environmental Impact Assessment	3	Elective (Disciplinary)	3,6,7,13
Courses for Elective - V				
ENV 245	Introduction to Oceanography	3	Elective (Disciplinary)	
MTM 222	Introduction to Coastal Zone Management	3	Elective (Disciplinary)	
MTM 401	Coastal Ecotourism Development & Management	3	Elective (Disciplinary)	
Courses for Elective - VI				
ENV 320	Environmental Biotechnology	3	Elective (Disciplinary)	4, 14,15
ENV 405	Pollution Control Technology	3	Elective (Disciplinary)	3, 12, 13, 14
ENV 560	Environmental Hazard & Management	3	Elective (Disciplinary)	4,9,11
Courses for Elective - VII				
ENV 430	Environmental Policies & Laws	3	Elective (Disciplinary)	4,9,11
ENV 441	Energy and Environment	3	Elective (Disciplinary)	4,9,11
ENV 355	Urban Environmental Management	3	Elective (Disciplinary)	4,10,11
List of Arts and Humanities Elective				
HSS 109	Arabic	2	Elective (General Education Arts and Humanities)	
HSS 163	Chinese	2	Elective (General Education Arts and Humanities)	
HSS 164	German	2	Elective (General Education Arts and Humanities)	
HSS 160	French	2	Elective (General Education Arts and Humanities)	
HSS 161	Russian	2	Elective (General Education Arts and Humanities)	
HSS 162	Spanish	2	Elective (General Education Arts and Humanities)	
GEO 201	Museology	2	Elective (General Education Arts and Humanities)	

BS Geology

Program Title: BS Geology

Duration: 4 Years

Eligibility Criteria: Passed intermediate with Pre-Medical/Pre-Engineering subjects or A-level/equivalent with at least 50% marks with English, Physics, Chemistry, Mathematics or Biology.

Semester-wise Roadmap of BS Geology

Semester 1

Course Code	Course Title	Credit Hours	Category
ENG 101	Functional English	3	General Education Course (Functional English)
PHY 103	Physics	2	General Education Course (Natural Science)
PHL 103	Physics Lab	1	
CSC 102	Introduction to Computers & Programming lab	2	General Education Course (Quantitative Reasoning)
CSL 102	Introduction to Computers & Programming lab	1	
PAK 105	Pakistan Studies	2	General Education Course (Ideology & Constitution of Pakistan)
GEO 105	Physical & General Geology	3	Major (Disciplinary) Requirements
ISL 101	Islamic Studies	2	General Education Course (Islamic/Religious Studies)
GSC 340	Chemistry	2	General Education Course (Natural Science)
GSL 340	Chemistry Lab	1	
MAT 105	Mathematics	0	Non-credit Course
ISL 107	Tajweed	1 Contact Hour	Non-Credit course Tajweed, Quran and Hadith (Compulsory*)
		19	

Semester 2

Course Code	Course Title	Credit Hours	Category
HSS 320	Technical Writing and Presentation Skills	3	Gen. Edu. Course (Expository Writing)
GEO 151	Geological Field Work-I	2	Field Experience
GEO 207	Applications of Information and Communication Technologies	2	General Education Course (Applications of Information and Communication Technologies (ICT))
GEL 207	Applications of Information and Communication Technologies Lab	1	
GEO 110	Fundamental of Geography & Geomorphology	3	Major (Disciplinary)
GEO 115	Introduction to Geophysics	3	Major (Disciplinary)
GEO 120	Field Geology	3	Major (Disciplinary)
ISL 203	Fehmul Quran– I*	1	(Compulsory*)
		18	

Semester 3

Course Code	Course Title	Credit Hours	Category
	Arts and Humanities Elective	2	General Education Course (Arts and Humanities)

Course Code	Course Title	Credit Hours	Category
	Arts and Humanities Elective	2	General Education Course (Arts and Humanities)
HSS 219	Civics and Community Engagement	2	General Education Course (Civics and Community Engagement)
PSY 102	Introduction to Psychology	2	Gen. Edu. Course (Social Sciences)
GEO 212	Geostatistics	3	Interdisciplinary/Allied courses
GEO 205	Structural Geology	3	Major (Disciplinary)
GEO 210	Mineralogy & Crystallography	3	Major (Disciplinary)
GEO 215	Sedimentology	3	Major (Disciplinary)
		18	

Semester 4

Course Code	Course Title	Credit Hours	Category
PAK 109	Ideology and Constitution of Pakistan	2	Gen. Edu. Course (Ideology & Constitution of Pakistan)
HSS 423	Entrepreneurship	2	Gen. Edu. Course (Entrepreneurship)
GEO 230	Geotectonics	3	Major (Disciplinary) Requirements
MAT 115	Calculus & Analytical Geometry	3	Gen. Edu. Course (Quantitative Reasoning)
GEO 251	Geological Field Work-II	2	Field Experience
GEO 325	Stratigraphy of Pakistan	3	Major (Disciplinary)
GEO 335	Earthquake Seismology	3	Major (Disciplinary)
ISL 204	Fehm-e-Quran-II*	1	(03 contact hour, Compulsory*)
		19	

Semester 5

Course Code	Course Title	Credit Hours	Category
GEO 321	Computing with Matlab	2	Interdisciplinary /Allied courses
GEL 321	Computing with Matlab Lab	1	
GEO 315	Igneous & Metamorphic Petrology	3	Major (Disciplinary)
GEO 345	Petroleum Geology	3	Major (Disciplinary)
GEO 350	Geology of Pakistan	3	Major (Disciplinary)
GEO 415	Economic Geology	3	Major (Disciplinary)
GEO 305	Environmental Geology	3	Major (Disciplinary)
		18	

Semester 6

Course Code	Course Title	Credit Hours	Category
GEO 425	Research Methodology	3	Interdisciplinary/Allied courses
GEO 342	Wireline logging	3	Major (Disciplinary)
GEO 347	AI & Computational Geology	3	Major (Disciplinary)
GEO xxx	Elective - I	3	Elective (Disciplinary)
GEO xxx	Elective - II	3	Elective (Disciplinary)

GEO 351	Geological Field Work-III	2	Field Experience
		17	

Semester 7

Course Code	Course Title	Credit Hours	Category
GEO 451	Geological Field Work-IV	2	Field Experience
GEO 405	Petroleum Engineering	3	Major (Disciplinary)
GEO 420	Hydrogeology	3	Major (Disciplinary)
GEO xxx	Elective - III	3	Elective (Disciplinary)
GEO xxx	Elective - IV	3	Elective (Disciplinary)
GEO xxx	Elective - V	3	Elective (Disciplinary)
ISL 113*	Seerah - I	0	(1 Contact Hour)
		17	

Semester 8

Course Code	Course Title	Credit Hours	Category
GEO 437	GIS & Remote Sensing	3	Interdisciplinary/Allied courses
GEO xxx	Elective – VI	3	Elective (Disciplinary)
GEO xxx	Elective – VII	3	Elective (Disciplinary)
GEO xxx	Elective – VIII	3	Elective (Disciplinary)
GEO 442	Thesis	3	Capstone Project
ISL 114*	Seerah - II	0	(1 Contact Hour)
		15	

List of Elective Courses

Proposed new Roadmap as per HEC New Curriculum 2025

Course Code	Course Title	Credit Hours	Category
GEO 221	Optical Mineralogy	3	Elective (Disciplinary)
GEO 225	Geochemistry	3	Elective (Disciplinary)
GEO 310	Paleontology	3	Elective (Disciplinary)
GEO 320	Marine Geology	3	Elective (Disciplinary)
GEO 330	Micropaleontology & Biostratigraphy	3	Elective (Disciplinary)
GEO 336	Neotectonics	3	Elective (Disciplinary)
GEO 406	Reservoir Geology	3	Elective (Disciplinary)
GEO 407	Clastic Sedimentology	3	Elective (Disciplinary)
GEO 408	Carbonate Sedimentology	3	Elective (Disciplinary)
GEO 410	Engineering Geology	3	Elective (Disciplinary)
GEO 430	Geochemical Exploration Techniques	3	Elective (Disciplinary)
GEO 431	Introduction to Geotechnical Engineering	3	Elective (Disciplinary)
GEO 520	Rock Mechanics	3	Elective (Disciplinary)
GEO 433	Soil Mechanics	3	Elective (Disciplinary)
GEO 469	Industrial Mineralogy	3	Elective (Disciplinary)
GEO 476	Mining Geology	3	Elective (Disciplinary)
GEO 484	Quaternary Geology	3	Elective (Disciplinary)

GEO 484	Quaternary Geology	3	Elective (Disciplinary)
GEO 482	Software Applications in Petrophysics	3	Elective (Disciplinary)
GEO 433	Soil Mechanics	3	Elective (Disciplinary)
GEO 469	Industrial Mineralogy	3	Elective (Disciplinary)
GEO 476	Mining Geology	3	Elective (Disciplinary)
GEO 484	Quaternary Geology	3	Elective (Disciplinary)
GEO 482	Software Applications in Petrophysics	3	Elective (Disciplinary)
ENV 245	Introduction to oceanography	3	Elective (Disciplinary)
MTM 222	Introduction to Coastal Zone Management	3	Elective (Disciplinary)
MTM 401	Coastal Eco-Tourism Development & Management	3	Elective (Disciplinary)
List of Arts and Humanities Elective			
HSS 109	Arabic	2	Elective (General Education)
HSS 163	Chinese	2	Elective (General Education)
HSS 164	German	2	Elective (General Education)
HSS 160	French	2	Elective (General Education)
HSS 161	Russian	2	Elective (General Education)
HSS 162	Spanish	2	Elective (General Education)
HSS 214	Turkish	2	Elective (General Education)
GEO 201	Museology	2	Elective (General Education)

BS Geophysics

Program Title: BS Geophysics

Duration: 4 Years

Eligibility Criteria: Passed intermediate with Pre-Medical/Pre-Engineering subjects or A-level/equivalent with at least 50%marks with English, Physics, Chemistry, Mathematics or Biology.

Semester-wise Roadmap of BS Geophysics

Semester 1

Course Code	Course Title	Credit Hours	Category
ENG 101	Functional English	3	General Education Course (Functional English)
PHY 103	Physics	2	General Education Course (Natural Science)
PHL 103	Physics Lab	1	
CSC 102	Introduction to Computers & Programming lab	2	General Education Course (Quantitative Reasoning)
CSL 102	Introduction to Computers & Programming lab	1	
PAK 105	Pakistan Studies	2	General Education Course (Ideology & Constitution of Pakistan)
GEO 105	Physical & General Geology	3	Major (Disciplinary) Requirements
ISL 101	Islamic Studies	2	General Education Course (Islamic/Religious Studies)
GSC 340	Chemistry	2	General Education Course (Natural Science)
GSL 340	Chemistry Lab	1	
MAT 105	Mathematics	0	Non-credit Course
ISL 107	Tajweed*	1Contact Hour	Non-Credit course Tajweed and Hadith (Compulsory*)
		19	

*Only for Muslim students

Semester 2

Course Code	Course Title	Credit Hours	Category
HSS 320	Technical Writing and Presentation Skills	3	Gen. Edu. Course (Expository Writing)
GEO 151	Geological Field Work-I	2	Field Experience
GEO 207	Applications of Information and Communication Technologies	2	General Education Course (Applications of Information and Communication Technologies (ICT))
GEL 207	Applications of Information and Communication Technologies Lab	1	
GEO 110	Fundamental of Geography & Geomorphology	3	Major (Disciplinary)
GEO 115	Introduction to Geophysics	3	Major (Disciplinary)
GEO 120	Field Geology	3	Major (Disciplinary)
		18	

*Only for Muslim students, One credit hour course with 3 contact hour per week

Semester 3

Course Code	Course Titel	Credit Hours	Catagory
	Arts and Humanities (Elective)	2	General Education Course (Arts and Humanities)
HSS 219	Civics and Community Engagement	2	General Education Course (Civics and Community Engagement)
PSY 102	Introduction to Psychology	2	Gen. Edu. Course (Social Sciences)
GEO 212	Geostatistics	3	Interdisciplinary/Allied courses
GEO 205	Structural Geology	3	Major (Disciplinary)
GEO 210	Mineralogy & Crystallography	3	Major (Disciplinary)
GEO 215	Sedimentology	3	Major (Disciplinary)
		18	

Semester 4

Course Code	Course Titel	Credit Hours	Catagory
PAK 109	Ideology and Constitution of Pakistan	2	Gen. Edu. Course (Ideology & Constitution of Pakistan)
HSS 423	Entrepreneurship	2	Gen. Edu. Course (Entrepreneurship)
GEO 230	Geotectonics	3	Major (Disciplinary) Requirements
MAT 115	Calculus & Analytical Geometry	3	Gen. Edu. Course (Quantitative Reasoning)
GEO 251	Geological Field Work-II	2	Field Experience
GEO 325	Stratigraphy of Pakistan	3	Major (Disciplinary)
GEO 335	Earthquake Seismology	3	Major (Disciplinary)
ISL 204	Fehm-e-Quran-II*	1	(03 contact hour, Compulsory*)
		19	

*Only for Muslim students; For Non-Muslims any University approved 02 (or more) credit hours of Interdisciplinary Course

Semester 5

Course Code	Course Titel	Credit Hours	Catagory
GEO 321	Computing with Matlab	2	Interdisciplinary /Allied courses
GEL 321	Computing with Matlab Lab	1	
GEO 315	Igneous & Metamorphic Petrology	3	Major (Disciplinary)
GEO 345	Petroleum Geology	3	Major (Disciplinary)
GEO 350	Geology of Pakistan	3	Major (Disciplinary)
GEO 415	Economic Geology	3	Major (Disciplinary)
GEO 305	Environmental Geology	3	Major (Disciplinary)
		18	

Semester 6

Course Code	Course Titel	Credit Hours	Catagory
GEO 425	Research Methodology	3	Interdisciplinary/Allied courses
GEO 342	Wireline logging	3	Major (Disciplinary)
GEO 347	AI & Computational Geology	3	Major (Disciplinary)
GEO xxx	Elective – I	3	Elective (Disciplinary)
GEO xxx	Elective – II	3	Elective (Disciplinary)
GEO 351	Field Work-III	2	Field Experience
		17	

Semester 7

Course Code	Course Titel	Credit Hours	Catagory
GEO 451	Geological Field Work-IV	2	Field Experience
GEO 405	Petroleum Engineering	3	Major (Disciplinary)
GEO 420	Hydrogeology	3	Major (Disciplinary)
GEO xxx	Elective - III	3	Elective (Disciplinary)
GEO xxx	Elective - IV	3	Elective (Disciplinary)
GEO xxx	Elective - V	3	Elective (Disciplinary)
ISL 113*	Seerah – I	0	(1 Contact Hour)
		17	

*Only for Muslim students; For Non-Muslims any University approved 02 (or more) credit hours of Interdisciplinary Course

Semester 8

Course Code	Course Titel	Credit Hours	Catagory
GEO 437	GIS & Remote Sensing	3	Interdisciplinary/Allied courses
GEO xxx	Elective – VI	3	Elective (Disciplinary)
GEO xxx	Elective – VII	3	Elective (Disciplinary)
GEO xxx	Elective – VIII	3	Elective (Disciplinary)
GEO 442	Thesis	3	Capstone Project
ISL 114*	Seerah – II	0	(1 Contact Hour)
		15	

*Only for Muslim students; For Non-Muslims any University approved 02 (or more) credit hours of Interdisciplinary Course

List of Elective Courses

Course Code	Course Titel	Credit Hours	Catagory
GEO 240	Gravity and Magnetic Exploration Techniques	3	Elective (Disciplinary)
GEO 327	Environmental Geophysics	3	Elective (Disciplinary)
GEO 332	Rock Physics	3	Elective (Disciplinary)
GEO 367	Seismic Data Acquisition & Planning	3	Elective (Disciplinary)
GEO 379	Introduction to Machine Learning	2	Elective (Disciplinary)
GEL 379	Introduction to Machine Learning Lab	1	Elective (Disciplinary)
GEO 368	Electrical & Radioactive Exploration Techniques	3	Elective (Disciplinary)
GEO 390	Borehole Geophysics	3	Elective (Disciplinary)
GEO 470	Seismic Data Processing	3	Elective (Disciplinary)
GEO 311	Reservoir Geophysics	3	Elective (Disciplinary)
GEO 567	Sequence Stratigraphy	3	Elective (Disciplinary)
GEO 588	Ground Water Investigation	3	Elective (Disciplinary)
GEO 445	Seismic Stratigraphy	3	Elective (Disciplinary)
GEO 477	Seismic Data Interpretation	3	Elective (Disciplinary)
GEO 479	Geospatial Techniques	3	Elective (Disciplinary)
GEO 481	Mining Geophysics	3	Elective (Disciplinary)
GEO 483	Applications of Geoscience Software	3	Elective (Disciplinary)

GEO 483	Applications of Geoscience Software	3	Elective (Disciplinary)
GEO 485	Shallow Surface Geophysics	3	Elective (Disciplinary)
ENV 245	Introduction to Oceanography	3	Elective (Disciplinary)
MTM 222	Introduction to Coastal Zone Management	3	Elective (Disciplinary)
MTM 401	Coastal Eco-Tourism Development & Management	3	Elective (Disciplinary)
HSS 109	Arabic	2	Elective (General Education)
List of Arts and Humanities Elective			
HSS 163	Chinese	2	Elective (General Education)
HSS 164	German	2	Elective (General Education)
HSS 160	French	2	Elective (General Education)
HSS 161	Russian	2	Elective (General Education)
HSS 162	Spanish	2	Elective (General Education)
HSS 214	Turkish	2	Elective (General Education)

BS Remote Sensing & GIS

Program Title: BS Remote Sensing & GIS
Duration: 4 Years (8 semesters)
Eligibility Criteria: Minimum 50% marks in Intermediate (HSSC) Examination (Pre-Medical / Pre-Engg. / ICS / General Science / Diploma of Associate Engineering) or equivalent qualification.

Semester-wise Roadmap of BS Remote Sensing & GIS

Semester 1

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
RGS 103	Fundamental of GIS	2	Major (Disciplinary)	4, 8, 11
RGL 103	Fundamental of GIS Lab	1		
PHY 103	Physics	2	Gen. Edu. Course (Natural Sciences)	4, 9
PHL 103	Physics Lab	1		
ENG 103	Functional English	3	General Education Course (Functional English)	4
MAT 105	Mathematics*	0	Zero Credit Course	4
MAT 205	Statistics	3	General Education Course (Quantitative Reasoning)	4
RGS 105	Fundamental of Earth Sciences	3	Interdisciplinary	4, 6, 7, 15
RGS 107	Introduction To Physical Geography	3	Major (Disciplinary)	4,11, 14, 15
ISL 107	Tajweed**	0	Non-Credit course Tajweed, Quran and Hadith (1 Contact Hour)	4, 10, 16
		18		

*Academic credit of this course is zero but its contact hours, teaching material and tuition fee are equal to a 3 credit hours course. **Only for Muslim students

Semester 2

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
MAT 115	Calculus & Analytical Geometry	3	Gen. Edu. Course (Quantitative Reasoning)	4
HSS 320	Technical Writing and Presentation Skills	3	Gen. Edu. Course (Expository Writing)	4, 8, 10
RGS 106	Introduction To Remote Sensing	2	Major (Disciplinary)	3, 4, 14, 15
RGL 106	Introduction To Remote Sensing Lab	1		
	Social Science Elective - I	2	Gen. Edu. Course (Social Sciences)	
CSC-114	Introduction to Information & communication technology	2	Gen. Edu. Course (Applications of Information and Communication Technologies (ICT))	
CSL-114	Introduction to Information & communication technology Lab	1		
RGS 108	Map Work and Projections	2	Major (Disciplinary)	
RGL 108	Map Work and Projections Lab	1		
ISL 203	Feham-e- Quran – I	1	Gen. Edu. Course (Islamic/Religious Studies)	4, 10, 16
		17		

*Only for Muslim students

Semester 3

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
HSS 219	Civics And Community Engagement	2	Gen. Edu. Course (Civics and Community Engagement)	4, 13, 16, 17
RGS 203	Land Surveying	2	Major(Disciplinary)	4, 8, 9, 11
RGL 203	Land Surveying Lab	1		
ISL 101 / HSS 116	*Islamic Studies / Ethics	2	General Education Course (Islamic/Religious Studies)	4, 10, 16
PAK 105	Pakistan Studies	2	Gen. Edu. Course (Ideology & Constitution of Pakistan)	4, 10, 16
CEN 445	Digital Image Processing	2	Major (Disciplinary)	4, 9, 11
CEL 445	Digital Image Processing Lab	1		
RGS 205	Global Navigation Satellite System	2	Major (Disciplinary)	4, 9
RGL 205	Global Navigation Satellite System Lab	1		
ENV 201	Climatology	3	Interdisciplinary	4, 6, 7, 11, 12, 13, 14, 15
		18		

*ISL 101 compulsory for Muslim students only; Non-Muslim students can study HSS 116 Ethics course.

Semester 4

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
HSS 423	Entrepreneurship	2	Gen. Edu. Course (Entrepreneurship)	4, 8, 9, 17
RGS 212	Active Remote Sensing	2	Major (Disciplinary)	4, 9, 11
RGL 212	Active Remote Sensing Lab	1		
	Social Science Elective - II	2	Gen. Edu. Course (Social Sciences)	16
PAK 109	Ideology & Constitution of Pakistan	2	Gen. Edu. Course (Ideology & Constitution of Pakistan)	4, 16
RGS 208	Photogrammetry	2	Major (Disciplinary)	4, 8, 9, 11
RGL 208	Photogrammetry Lab	1		
RGS 210	Digital Cartography	1	Major (Disciplinary)	4, 8, 9, 11, 12
RGL 210	Digital Cartography Lab	1		
RGS 360	Spatial Data Analysis	2	Major (Disciplinary)	4, 8, 9
RGL 360	Spatial Data Analysis Lab	1		
ISL 204	Feham-e- Quran-II*	1	Gen. Edu. Course (Islamic/Religious Studies)	4, 10, 16
		18		

* Non-Muslim students shall undertake any University-approved 02 (or more) credit hours Interdisciplinary Course in lieu of Fehmul QuranI & II.

Semester 5

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
RGS 303	Spatial Data Infrastructure & Standardization	3	Major (Disciplinary)	4, 9, 11
GEO 223	Urban & Town Planning	3	Interdisciplinary	4, 6, 7, 8, 9, 11,
RGS 320	Geospatial Project Management	3	Major (Disciplinary)	4, 13, 15
RGS 301	Mobile Data Acquisition & Mapping	2	Major (Disciplinary)	4
RGL 301	Mobile Data Acquisition & Mapping Lab	1		
RGS 305	GIS Programming and Customization	2		4, 8
RGL 305	GIS Programming and Customization Lab	1		
		15		

Summer Semester

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
XXX	Internship	3		
		3	Internship	

Semester 6

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
GEO 324	Research Methodology	3	Interdisciplinary	4
RGS 317	Spatial Decision Support System	3	Major (Disciplinary)	4,12,15,16
RGS 302	Spatial Database	2	Major (Disciplinary)	4, 8
RGL 302	Spatial Database Lab	1		
RGS 304	Hyper-Spectral Remote Sensing	2	Major (Disciplinary)	4, 11
RGS 304	Hyper-Spectral Remote Sensing Lab	1		
XXX	Elective I	3	Major (Disciplinary)	As per list of Electives
XXX	Elective II	3	Major (Disciplinary)	As per list of Electives
		18		

Semester 7

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
RGS 330	Web GIS	2	Major (Disciplinary)	4, 8, 9
RGL 330	Web GIS Lab	1		
RGS 401	Artificial Intelligence in RS & GIS	2	Major (Disciplinary)	4, 9
RGL 401	Artificial Intelligence in RS & GIS Lab	1		
RGS 454	Spatial Data Modelling	2	Major (Disciplinary)	4, 13, 15

RGS 454	Spatial Data Modelling Lab	1		
XXX	Elective III	3	Major (Disciplinary)	As per list of Electives
XXX	Elective IV	3	Major (Disciplinary)	As per list of Electives
ISL 113	Seerah –I*	0	Non-Credit course Tajweed, Quran and Hadith (1 Contact Hour)	4, 10, 16
		15		

*Only for Muslim students

Semester 8

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
RGS 402	Unmanned Aerial Vehicle & Data Processing	2	Major (Disciplinary)	4, 9, 13, 15
RGL 402	Unmanned Aerial Vehicle & Data Processing Lab	1		
RGS 404	Machine Learning in Spatial Data	2	Major (Disciplinary)	3, 4, 9
RGL 404	Machine Learning in Spatial Data Lab	1		
XXX	Elective V	3	Major (Disciplinary)	As per list of Electives
XXX	Elective VI	3	Major (Disciplinary)	As per list of Electives
RGS 410	Capstone Project	3	Capstone Project	4
ISL 114	Seerah –II*	0	Non-Credit course Tajweed, Quran and Hadith (1 Contact Hour)	4, 10, 16
		15		

*Only for Muslim students

Revised List of Elective Courses with HEC New UG Policy						
S. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hour	HEC Category	17 UN SDGs Alignment
Elective I (To be offered in 6th semester)						
1	RGS 106	RGS 319	Multidisciplinary Application of GIS & RS	3	Major (Disciplinary) Requirements	4, 8, 9, 14, 15

2		RGS 306	GIS in Agriculture	3	Major (Disciplinary) Requirements	2, 4, 6, 8, 12
3		ENV 361	Natural Resource Management	3	Major (Disciplinary) Requirements	4, 6, 7, 9, 11, 12
Elective II (To be offered in 6th semester)						
4		ENV 245	Introduction to Oceanography	3	Elective (Disciplinary)	
5		MTM 222	Introduction to Coastal Zone Management	3	Elective (Disciplinary)	
6		MTM 401	Coastal Ecotourism Development & Management	3	Elective (Disciplinary)	
Elective III (To be offered in 7th semester)						
7	ENV 201	RGS 403	GIS in Climate Change Impact Assessment	3	Major (Disciplinary) Requirements	4, 6, 7, 11, 12, 13, 14, 15
8		RGS 455	Land & Water Information System	3	HEC Recommendation	4, 6, 7, 12, 13, 14
9		ENV 412	Environmental Impact Assessment	3	Major (Disciplinary) Requirements	3, 4, 6, 7, 11, 12
Elective IV (To be offered in 7th semester)						
10		GEO 421 GEL 421	Ground water Investigation Ground water Investigation Lab	3 (2+1)	Major (Disciplinary) Requirements	4, 6, 11, 12, 13
11	RGS 305 RGL 305	RGS 456 RGL 456	GIS Programming & Python GIS Programming & Python	3 (2+1)	Major (Disciplinary) Requirements	4, 8
Elective V (To be offered in 8th semester)						
13		ENV 518	Watershed management	3	Major (Disciplinary) Requirements	4, 6, 12
14	RGS 401 RGL 401	AIC 303 AIL 303	Artificial Neural Network Artificial Neural Network Lab	3	Major (Disciplinary) Requirements	3, 8, 9

15		RGS 406	Remote Sensing based Geographical monitoring	3	Benchmark Course Major (Disciplinary) Requirements	8, 9
Elective VI (To be offered in 8th semester)						
16	RGS 108 RGL 108	RGS 451 RGL 451	Computer Aided Drafting/Drawing Computer Aided Drafting/Drawing Lab	3	Major (Disciplinary) Requirements	4, 9, 11
17		RGS 361 RGL 361	Integrated Geospatial Technologies Integrated Geospatial Technologies Lab	3	Major (Disciplinary) Requirements	4, 8, 9
18		RGS 408	Computer Vision to Geospatial Analytics	3	Benchmark Course Major (Disciplinary) Requirements	8, 9

SOCIAL SCIENCE ELECTIVES

Sr. No.	Pre-Requisite	Course Code	Title	Credit Hour
1	None	PSY 102	Introduction to Psychology	2
2	None	HSS 331	Fundamentals of International Relation	2
3	None	HSS 109	Arabic	2
4	None	HSS 163	Chinese	2
5	None	HSS 160	French	2
6	None	HSS 164	German	2
7	None	HSS 161	Russian	2
8	None	HSS 162	Spanish	2
9	None	HSS 214	Turkish	2

MS Environmental Sciences

Important for all candidates

Applicant for admission MUST MEET THE ELIGIBILITY REQUIREMENTS set-forth by Bahria University.

Candidates are advised to CONFIRM THEIR ELIGIBILITY prior apply.

In case of annual system, eligibility will be determined on the basis of result in percentages.

In case of semester system, eligibility will be determined on the basis of CGPA obtained out of 4.00.

In case the result is shown both in CGPA and percentage, CGPA will be considered.

Eligibility Criteria

Passed 16 years in relevant discipline (Earth Sciences/ Natural Sciences) with CGPA 2.00/4.0 or 50% marks.

Semester 1

BU Existing Roadmap				Proposed new Roadmap as per HEC New Curriculum 2025				
Course Code	Course Title	Credit Hours	Category	Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
ENV 731	Advancement in Environmental Analytical Techniques	3	Compulsory	ENV 723	Strategic Environmental Assessment	3	Compulsory	3, 4, 6, 8, 11, 15
ESC 701	Research Methodology	3	Compulsory	ESC 701	Research Methodology	3	Compulsory	4,8,12
ENV 702	Environmental Management	3	Compulsory		Elective I	3	Elective	
ENV 740	Climate Crisis Adaption and Mitigation	3	Compulsory		Elective II	3	Elective	
		12				12		

Semester 2

BU Existing Roadmap				Proposed new Roadmap as per HEC New Curriculum 2025				
Course Code	Course Title	Credit Hours	Category	Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
	Elective I	3	Elective	ENV 742	Climate Change Adaptation and Mitigation	3	Compulsory	3,4,9,11, 13
	Elective II	3	Elective	ENV 731	Advancement in Environmental Analytical Techniques	3	Compulsory	3,4,9,11
	Elective III	3	Elective		Elective III	3	Elective	
	Elective IV	3	Elective	ISL 203	Fehmul Quran– I*	0-1		
		12				10		

Semester 3

BU Existing Roadmap				Proposed new Roadmap as per HEC New Curriculum 2025				
Course Code	Course Title	Credit Hours	Category	Course Code	Course Title	Credit Hours	Category	17 UN-SDGS

BU Existing Roadmap				Proposed new Roadmap as per HEC New Curriculum 2025				
Course Code	Course Title	Credit Hours	Category	Course Code	Course Title	Credit Hours	Category	17 UN-SDGS

Semester 4

BU Existing Roadmap				Proposed new Roadmap as per HEC New Curriculum 2025				
Course Code	Course Title	Credit Hours	Category	Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
THS 701	Thesis	3	Compulsory	THS 799	Research Thesis	3	Compulsory	4, 9, 17
Total		3				3		

List of Elective Courses					
S. No	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1	ENV 702	Environmental Management	3	Elective	4,8,12
2	ENV 730	Advanced Environmental Biotechnology	3	Elective	SDGs 3,6,11,14,16
3	ENV 703	Eco-friendly Energy Sources	3	Elective	3,4,7,9,11
4	ENV 720	Innovation in waste management approaches	3	Elective	3,4,6,11,12,15
5	ENV 713	Health, Safety and Environment	3	Elective	3,4,9,11,15
6	ENV 715	Environmental Risk Assessment and Management	3	Elective	4,11,12,14,15
7	ENV 710	Environmental Auditing	3	Elective	SDG 4, 8,12
8	ENV 711	Circular and Green Economy	3	Elective	4,8,10,16
9	ENV 737	Recent Trends in Environmental Engineering	3	Elective	3,4,6,9,11
10	ENV 714 ENL 714	Remote Sensing and GIS Applications in Environment	2+1	Elective	4,9,11,15
11	ENV 705	Environmental Policies and Legal Framework	3	Elective	4,10,16
12	ENV 733	Advanced Environmental Chemistry	3	Elective	3,6 ,14
13	ENV 722	Disaster Mitigation and Emergency Management	3	Elective	3,8,11,14,16
14	ENV 724	Air and Noise Pollution Control	3	Elective	3,4,11,13,15
15	ENV 732	Climate Financing	3	Elective	3,4, 11,15
16	ENV 721	Marine Pollution And Control	3	Elective	3,4,6,11,14,15

MS Geology

Important for all candidates

Applicant for admission MUST MEET THE ELIGIBILITY REQUIREMENTS set-forth by Bahria University.

Candidates are advised to CONFIRM THEIR ELIGIBILITY prior apply.

In case of annual system, eligibility will be determined on the basis of result in percentages.

In case of semester system, eligibility will be determined on the basis of CGPA obtained out of 4.00.

In case the result is shown both in CGPA and percentage, CGPA will be considered.

Eligibility Criteria

The Master of Science (M.S.) study programs in geology and geophysics are available to students who meet the admission requirements of the Bahria University and hold B S. degree in Geology or Geophysics (4 years education after F. Sc.) or an equivalent degree from recognized institutions. An applicant must have obtained at least 50% marks in his / her B.S. degree level. or obtained a CGPA of 2.00 or better (on a 4.00 scale) or equivalent.

Semester	Credit Hours (Courses)
1	12 CH (4 Compulsory courses)
2	12 CH (4 Elective courses)
3	03 CH (Thesis)
4	03 CH (Thesis)
Total Credit Hours	30

Compulsory Courses

Course Codes	Course Title	Credit Hours
GEO 503	Advanced Petroleum Geology	3
GEO 501	Global Tectonics	3
GEO 512	Mineral Prospecting and Exploration	3
ESC 701	Research Methodology	3

Elective Courses

Course Codes	Course Title	Credit Hours
GEO 741	Applications of GIS in Geoscience	3
GEO 748	Advanced Seismic Stratigraphy	3

GEO 705	Advanced Sedimentology	3
GEO 706	Hydrocarbon Geochemistry	3
GEO 707	Basin Analysis	3
GEO 708	Stratigraphy and Petroleum Prospects	3
GEO 747	Drilling Operations and Well Site Geology	3
GEO 710	Groundwater Development and Management	3
GEO 731	Techniques in Structural Geology	3
GEO 765	Rock Mechanics	3
GEO 721	Soil Mechanics	3
GEO 722	Geochemical Exploration	3
GEO 723	Isotope Geochemistry	3
GEO 724	Clastic Sedimentology	3
GEO 725	Non Clastic Sedimentology	3
GEO 726	Clay Mineralogy	3
GEO 727	Hydrochemistry & Groundwater Pollution	3
GEO 728	Groundwater Modeling	3
GEO 729	Industrial Mineralogy	3
GEO 730	Advanced Marine Geology	3
GEO 734	Reservoir Geology	3
GEO 735	Applied Mineralogy	3

GEO 787	Fundamentals of Gemology	3
GEO 737	Advanced Engineering Geology	3
ENV 737	Recent Trends in Environmental Engineering	3
ENV 713	Health Safety and Environment	3
GEO 736	Advanced Igneous Petrology	3
GEO 738	Advanced Metamorphic Petrology	3
GEO 739	Ore Deposits Geology	3
GEO 746	Advanced Biostratigraphy	3
GEO 512	Mineral Prospecting and Exploration	3
GEO 702	Geophysical Exploration Techniques	3
GEO 719	Coal Geology	3
ENV 740	Climate Crisis Adaption and Mitigation	3
ENV 722	Disaster Mitigation and Emergency Management	3
ENV 704	Environmental Impact Assessment	3
GEO 716	Applied Environmental Geophysics	3
GEO 771	Engineering Geophysics	3
MAT 769	Machine Learning in Geosciences	3
GEO 770	Applications of Geostatistics in Geosciences	3
GEO 786	Reservoir Geomechanics	3
GEO 750	Unconventional Hydrocarbon Resources	3

GEO 760	Practical Applications of Geosciences	3
THS 799	MS Thesis	6
Any other relevant course from Geophysics/Environmental Sciences		

MS Geophysics

Important for all candidates

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In case of annual system, eligibility will be determined on the basis of result in percentages.

In case of semester system, eligibility will be determined on the basis of CGPA obtained out of 4.00.

In case the result is shown both in CGPA and percentage, CGPA will be considered.

Eligibility Criteria

The Master of Science (M.S.) study programs in geology and geophysics are available to students who meet the admission requirements of the Bahria University and hold B S. degree in Geology or Geophysics (4 years education after F. Sc.) or an equivalent degree from recognized institutions. An applicant must have obtained at least 50% marks in his / her B.S. degree level. or obtained a CGPA of 2.00 or better (on a 4.00 scale) or equivalent.

Semester	Credit Hours (Courses)
1	12 CH (4 Compulsory Courses)
2	12 CH (4 Elective Courses)
3	03 CH (Thesis)
4	03 CH (Thesis)
Total Credit Hours	30

Compulsory Courses

Course Code	Course Title	Credit Hours
GEO 761	Unconventional energy Resources	3
GEO 748	Advanced Seismic Stratigraphy	3
GEO 781	Advanced Seismic Techniques	3
ESC 701	Research Methodology	3

List of Elective Courses

Course code	Course Title	Credit Hours
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GEO 741	Applications of GIS in Geoscience	3
GEO 701	Global Tectonics	3
GEO 705	Sedimentary Petrology	3
GEO 766	3D Seismic Data interpretation	3
GEO 770	Applications of Geostatistics in Geosciences	3
GEO 786	Reservoir Geomechanics	3
GEO 707	Basin Analysis	3
GEO 708	Stratigraphic analysis and Petroleum Prospects	3
GEO 745	Petrophysical Analysis	3
GEO 747	Drilling Operations and Well Site Geology	3
GEO 710	Groundwater development and management	3
GEO 731	Techniques in Structural Geology	3
GEO 717	Seismic Data conditioning and analysis	3
GEO 715	Advances in Exploration Geophysics	3
GEO 744	Borehole Geophysics	3
GEO 713	Applied Seismology	3
GEO 724	Clastic Sedimentology	3

GEO 725	Non clastic Sedimentology	3
GEO 743	Advanced Earthquake Seismology	3
GEO 714	Mining Geophysics	3
GEO 728	Groundwater Modeling	3
GEO 749	Near Surface Geophysics	3
GEO 730	Advanced Marine Geology	3
GEO 734	Reservoir Geology	3
GEO 763	Gravity and Magnetic Exploration Techniques	3
GEO 749	Near Surface Geophysics	3
GEO 757	Electrical Exploration Techniques	3
ENV 740	Climate Crisis Adaption and Mitigation	3
ENV 713	Health Safety and Environment	3
GEO 702	Geophysical Exploration Technique	3
GEO 719	Coal Geology	3
GEO 760	Practical Technology Use in the Geoscience	3
GEO 703	Advanced petroleum system Analysis	3
ENV 704	Environmental Impact Assessment	3

GEO 605	Applications of Geostatistics in Geosciences	3
GEO 716	Environmental Geophysics	3
GEO 771	Engineering Geophysics	3
CSC 719	Machine Learning	3
GEO 712	Mineral prospecting and Exploration	3
THS 799	MS Thesis	6
Any other relevant course from Geology and Environmental Science disciplines		

PhD Environmental Sciences

Program Title: PhD Environmental Sciences

Duration: 3 to 8 years

Total Credit Hours: 18 Years Education in the relevant discipline with a minimum CGPA of 3.00/4.00 (Semester System) or 60% marks (Annual System). NTS-GAT (General) or GRE (General) Test passed with minimum 60% marks or BU Admission Test (60% passing marks). Initial Research Proposal/Statement of Purpose is required at the time of PhD admission.

Semester-wise Road map

Semester 1

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1	None	ENV 801	Recent Trends in Environmental Sciences	3
2	None	ENV 802	Advanced Ecosystem Management	3
3	None	-	Elective course	3

Semester 2

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1	None	ENV 803	Environmental Health Risk Assessment	3
3	None	-	Elective course	3
3	None	-	Elective course	3

Semester 3

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

Semester 4

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

Semester 5

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

Semester 6

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

List of Electives Courses

Pre-requisite Course Code	Course Code	Course Title	Credit Hours
None	ENV 804	Independent Research Study	3
None	ENV 805	Air Pollution & Control	3
None	ENV 806	Environmental Seminar	3
None	ENV 807	Field Trips to Industries	3
None	ENV 808	Environmental Monitoring, Sampling and Analysis	3
None	ENV 809	Environmental Data Analysis	3
None	ENV 810	Critical Review of Literature	3
None	ENV 811	Environmental Pollution and Climate Change	3
None	ENV 812	Advanced Environmental Legislation and Regulations	3
None	ENV 813	Hazardous Solid Waste Management	3
None	ENV 814	Natural Resources & Associated Problems	3
None	ENV 815	Environmental Social Issues	3
None	ENV 816	Alternative Energy Sources	3
None	ENV 817	Advanced Research Methodology	3

PhD Geology

Program Title: PhD Geology

Duration: 3 to 8 Years

Eligibility Criteria: 18 Years Education in the relevant discipline with a minimum CGPA of 3.00/4.00 (Semester System) or 60% marks (Annual System). NTS-GAT (General) or GRE (General) Test passed with minimum 60% marks or BU Admission Test (60% passing marks). Initial Research Proposal/Statement of Purpose is required at the time of PhD admission.

Semester-wise Road map

Semester 1

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		GEO 801	Tectonic Evolution of Pakistan	3
2		GEO 802	Geosciences Seminar	3
3		GEO 8XX	Elective course-I	3

Semester 2

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		GEO 871	Advanced Petroleum Geology	3
2		GEO xx	Elective course- II	3
3		GEO 8xx	Elective course-III	3

Semester 3

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

Semester 4

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

Semester 5

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

Semester 6

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

List of Electives Courses

Course Code	Course Title	Credit Hours
GEO 831	Igneous Petrogenesis	3
GEO 832	Stable Isotope Geoscience	3
GEO 833	Ore Mineralogy	3
GEO 834	Geochemical Prospecting	3
GEO 835	Radiogenic Isotopes Geoscience	3
GEO 836	Ore Petrology	3
GEO 837	Applied Mineralogy	3
GEO 838	Fluid Inclusions	3
GEO 839	Gemmology	3
GEO 840	Metamorphic Petrogenesis	3
GEO 841	Advanced Geochemistry	3
GEO 842	Advanced Mineralogy	3
GEO 843	Mineral Prospecting and Exploration	3
GEO 844	Mineral Deposit Evaluation	3
GEO 845	Carbonate Sedimentology	3
GEO 846	Clastic Sedimentology	3
GEO 847	Petroleum Geochemistry	3
GEO 848	Advanced Marine Geology	3
GEO 814	Hydrocarbon Exploration Techniques	3
GEO 850	Advanced Basin Analysis	3
GEO 851	Reservoir Characterization	3
GEO 852	Advanced Micropaleontology	3
GEO 853	Advanced Sequence Stratigraphy	3
GEO 854	Watershed Management	3
GEO 855	Contaminant Hydrogeology	3
GEO 856	Advanced Rock Mechanics	3
GEO 857	Advanced Soil Mechanics	3
GEO 858	Advanced Quantitative Hydrogeology	3

GEO 859	Advanced Engineering Geology	3
GEO 860	Ground Water Modeling (Flow and Transport)	3
GEO 861	Advanced Hydro geochemistry	3
GEO 862	Desertification	3
GEO 863	Geotechnical Engineering	3
GEO 866	Advanced Instrumentation	3
GEO 867	Glaciology	3
GEO 868	Advanced Structural Geology	3
GEO 829	Advanced Earthquake Seismology	3
GEO 869	Geostatistics	3
GEO 826	Disaster Risk Management	3
GEO 870	Advanced Geoinformatics	3
GEO 810	Petrophysics	3

PhD Geo-Physics

Program Title: PhD Geophysics

Duration: 3 to 8 years

Eligibility Criteria: 18 Years Education in the relevant discipline with a minimum CGPA of 3.00/4.00 (Semester System) or 60% marks (Annual System). NTS-GAT (General) or GRE (General) Test passed with minimum 60% marks or BU Admission Test (60% passing marks). Initial Research Proposal/Statement of Purpose is required at the time of PhD admission.

Semester-wise Road map

Semester 1

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		GEO 814	Hydrocarbon Exploration Techniques	3
2		GEO 828	Contemporary Trends in Geosciences	3
3		GEO 8xx	Elective course I	3

Semester 2

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		GEO 803	Seismic Imaging Techniques	3
2		GEO 8xx	Elective course II	3
3		GEO 8xx	Elective course III	3

Semester 3

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

Semester 4

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

Semester 5

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

Semester 6

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

List of Electives Courses

Course Code	Course Title	Credit Hours
ESC 801	Advanced Research Methodology	3
GEO 801	Tectonic Evolution of Pakistan	3
GEO 804	3D Seismic Attributes for Reservoir Characterization	3
GEO 805	3D Seismic Acquisition in Offshore & Onshore	3
GEO 806	Reservoir Modeling	3
GEO 807	GIS applications in Geophysics	3
GEO 808	Signal Processing in Geophysics	3
GEO 809	Geosciences Software	3
GEO 810	Petrophysics	3
GEO 811	Advanced Reflection Seismology	3
GEO 812	Mining Geophysics	3
GEO 813	Gravity & Magnetic Modeling	3
GEO 826	Disaster Risk Management	3
GEO 829	Advanced Earthquake Seismology	3
GEO 850	Advanced Basin Analysis	3
GEO 851	Reservoir Characterization	3
GEO 853	Advanced Sequence Stratigraphy	3
GEO 868	Advanced Structural Geology	3
GEO 869	Geostatistics	3
GEO 871	Advanced Petroleum Geology	3
GEO 872	Advanced Electrical Methods	3

BACHELOR OF ELECTRICAL ENGINEERING

Program Title: Bachelor of Electrical Engineering (BEE)

Duration: 4 years

Eligibility Criteria: F.Sc. (Pre-Engineering)/A-levels/relevant DAE with (Physics, Chemistry and Mathematics) with minimum 60% marks.

A combination of Physics, Mathematics and Computer Studies/ Computer Science (ICS) with minimum 60% marks are also allowed for admission in BEE program with Chemistry as a remedial subject course to be passed in 1st Semester after admission.

Program Educational Objectives (PEOs)

PEO 1: To provide viable solutions to complex engineering problems based on systematic theoretical and technical approaches in the field of electrical engineering.

PEO 2: To manage and develop sustainable electrical systems to meet desired objectives and explore new entrepreneurial possibilities in a multidisciplinary environment.

PEO 3: To pursue academic and professional growth by taking up higher studies, discovering new technologies and developing proficiency in the usage of latest tools.

PEO 4: To work in a multicultural environment and be responsive to ethical, moral, and societal issues showing leadership in their domain.

Program Learning Outcomes (PLOs)

No.	Program Learning Outcomes (PLOs)
PLO 1	Engineering Knowledge: Apply knowledge of mathematics, natural science, engineering fundamentals and Engineering specialization to the solution of complex engineering problems
PLO 2	Problem Analysis: Identify, formulate, conduct research literature, and analyze complex Engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences
PLO 3	Design/ Development of Solutions: An ability to design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations
PLO 4	Investigation: Conduct investigation of complex Engineering problems using research based knowledge and research methods, including design or experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions
PLO 5	Tool Usage: Create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex Engineering problems, with an understanding of the limitations

PLO 6	The Engineer and the World: Analyze and evaluate sustainable development impacts to society, the economy, sustainability, health and safety, legal frameworks, and the environment while solving complex engineering problems
PLO 7	Ethics: Apply ethical principles and commit to professional ethics and norms of engineering practice and adhere to relevant national and international laws. Demonstrate an understanding of the need for diversity and inclusion.
PLO 8	Individual and Collaborative Team Work: Function effectively as an individual, and as a member or leader in diverse and inclusive teams and in multi disciplinary, face to face, remote and distributed settings.
PLO 9	Communication: Communicate effectively and inclusively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, and make effective presentations, taking into account cultural, language, and learning differences.
PLO 10	Project Management and Finance: Demonstrate knowledge and understanding of engineering management principles and economic decision making and apply these to one's own work, as a member and leader in a team, to manage projects in multidisciplinary environments.
PLO 11	Lifelong Learning: Recognize the need for, and have the preparation and ability for i) independent and life long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change

Professional Competence Profile

EC No.	Professional Competence Profile
EC 1	Comprehend and apply universal knowledge: Comprehend and apply advanced Engineering knowledge of the widely applied principles underpinning good practices.
EC 2	Comprehend and apply local knowledge: Comprehend and apply advanced Engineering knowledge of the widely applied principles underpinning good practice specific to the jurisdiction of practices.
EC 3	Problem analysis: Define, investigate and analyze complex Engineering problems using data and information technologies where applicable.
EC 4	Design and development of solutions: Design or develop solutions to complex Engineering problems considering a variety of perspectives and taking account of stakeholder views
EC 5	Evaluation: Evaluate the outcomes and impacts of complex Engineering activities
EC 6	Protection of society: Recognize the foreseeable economic, social, and environmental effects of complex Engineering activities and seek to achieve sustainable outcomes.
EC 7	Legal, regulatory, and cultural: Meet all legal, regulatory, and cultural requirements and protect public health and safety in the course of all Engineering activities.

EC 8	Ethics: Conduct Engineering activities ethically.
EC 9	Manage engineering activities: Manage part or all of one or more complex Engineering activities.
EC 10	Communication and Collaboration: Communicate and collaborate using multiple media clearly and inclusively with a broad range of stakeholders in the course of all Engineering activities.
EC 11	Continuing Professional Development (CPD) and Lifelong learning: Undertake CPD activities to maintain and extend competences and enhance the ability to adapt to emerging technologies and the ever changing nature of work.
EC 12	Judgement: Recognize complexity and assess alternatives in light of competing requirements and incomplete knowledge. Exercise sound judgement in the course of all complex Engineering activities.
EC 13	Responsibility for decisions: Be responsible for making decisions on part or all of the complex Engineering activities

Semester-wise Road map

Semester 1

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	PEC Category	17 UN SDGs alignment
1	None	GSC 110	Applied Calculus and Analytical Geometry	3+0	Natural Science (Mathematics)	SDG 4, SDG 9
2	None	CSC 111	Introduction to Computing	1+0	Flexible Elective/Non-Engineering Courses	SDG 4, SDG 9
3	None	CSL 111	Introduction to Computing Lab	0+1	Flexible Elective/Non-Engineering Courses	SDG 4, SDG 9
4	None	ENG 101	Functional English	3+0	Humanities (English)	SDG 4
5	None	XXXX	Culture Elective-I	2+0	Humanities (Culture)	Mentioned in relevant Electives
6	None	XXXX	MDEE-I	2+0	Multidisciplinary Engineering Electives	Mentioned in relevant Electives
7	None	GSC 113	Applied Physics	3+0	Natural Sciences (Physics)	SDG 7, SDG 9
8	None	GSL 113	Applied Physics Lab	0+1	Natural Sciences (Physics)	SDG 7, SDG 9
9	None	EEL 112	Workshop Practice	0+1	Engineering Foundation	SDG 9
10	None	ENV 101	Occupational Health and Safety	1+0	Multidisciplinary Engineering Course	SDG 3
11	None	ISL 107	Tajweed*	0	Religious Education (Gen. Education)	SDG-4, SDG-5, SDG-10, SDG-16

12	None	GSC 340	Chemistry	Non credited 2 hrs per week (ICS students)	Natural Sciences	SDG 4, SDG 6
Total Credit Hours				18		

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	PEC Category	17 UN SDGs alignment
1	None	EEL 121	Engineering Drawing & CAD	0+1	Engineering Foundation	SDG 9
2	GSC 110	GSC 123	Linear Algebra & Differential Equations	3+0	Natural Science (Mathematics)	SDG 4, SDG 9
3	XXXX	XXXX	Basic Computing Elective	2+0	Basic Computing (Applications of ICT)	Mentioned in relevant Electives
4	XXXX	XXXX	Basic Computing Elective Lab	0+1	Basic Computing (Applications of ICT)	Mentioned in relevant Electives
5	None	EEN 110	Linear Circuit Analysis	3+0	Engineering Foundation	SDG 7, SDG 9
6	None	EEL 110	Linear Circuit Analysis Lab	0+1	Engineering Foundation	SDG 7, SDG 9
7	None	CEN 120	Digital Logic Design	3+0	Engineering Foundation	SDG 9
8	None	CEL 120	Digital Logic Design Lab	0+1	Engineering Foundation	SDG 9
9	None	PAK 109	Ideology and Constitution of Pakistan	2+0	Humanities (Culture)	SDH 4, SDG 16
10	None	ISL 203	Fehmul Quran– I *	0+1	Religious Education (Gen. Education)	SDG-4, SDG-5, SDG-10, SDG-16
Total Credit Hours				18		

Semester 3

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	PEC Category	17 UN SDGs alignment
1	None	ENG 123	Expository Writing	3+0	Humanities (English)	SDG 4
2	EEN 110	EEN 224	Electronic Devices and Circuits	3+0	Engineering Foundation	SDG 9
3	EEN 110	EEL 224	Electronic Devices and Circuits Lab	0+1	Engineering Foundation	SDG 9
4	EEN 110	EEN 211	Electrical Network Analysis	3+0	Engineering Foundation	SDG 7, SDG 9
5	EEN 110	EEL 211	Electrical Network Analysis Lab	0+1	Engineering Foundation	SDG 7, SDG 9
6	XXXX	XXXX	CIS Elective-I	3+0	Advanced Computer and Information Sciences	Mentioned in relevant Electives
7	XXXX	XXXX	CIS Elective-I Lab	0+1	Advanced Computer and Information Sciences	Mentioned in relevant Electives
8	GSC 110	GSC 220	Complex Variables and Transforms	3+0	Natural Science (Mathematics)	SDG 4, SDG 9
Total Credit Hours				18		

Semester 4

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	PEC Category	17 UN SDGs alignment
1	CEN 120	CEN 440	Embedded System Design	3+0	Major Based Core (Breadth)	SDG 4, SDG 8
2	CEN 120	CEL 440	Embedded System Design Lab	0+1	Major Based Core (Breadth)	SDG 4, SDG 8
3	GSC 220	EEN 313	Signals and Systems	3+0	Engineering Foundation	SDG 9
4	GSC 220	EEL 313	Signals and Systems Lab	0+1	Engineering Foundation	SDG 9
5	GSC 110	EEN 226	Probability Methods in Engineering	3+0	Engineering Foundation	SDG 4
6	None	XXXX	Social Science Elective-I	2+0	Humanities (Social Science)	Mentioned in relevant Electives
7	XXXX	XXXX	Professional Practice / Management Elective-I	2+0	Management Science (Professional Practice)	Mentioned in relevant Electives
8	ISL 108	ISL 109	Fehmul Quran– II*	0+1	Religious Education (Gen. Education)	SDG 4, SDG 5, SDG 10, SDG 16
Total Credit Hours				16		

Semester 5

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	PEC Category	17 UN SDGs alignment
1	GSC 110	EEN 311	Electromagnetic Field Theory	3+0	Engineering Foundation	SDG 9
2	XXXX	XXXX	CIS Elective-II	3+0	Advanced Computer and Information Sciences	Mentioned in relevant Electives
3	XXXX	XXXX	Math/ Natural Science Elective	3+0	Natural Sciences (Mathematics)	Mentioned in relevant Electives
4	EEN 313	EET 321	Communication Systems	3+0	Major Based Core (Breadth)	SDG 9
5	EEN 313	EEL 321	Communication Systems Lab	0+1	Major Based Core (Breadth)	SDG 9
6	EEN 211	EEN 312	Electrical Machines	3+0	Major Based Core (Breadth)	SDG 9
7	EEN 211	EEL 312	Electrical Machines Lab	0+1	Major Based Core (Breadth)	SDG 9
Total Credit Hours				17		

Semester 6

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	PEC Category	17 UN SDGs alignment
1	EEN 313	EEN 412	Linear Control Systems	3+0	Major Based Core (Breadth)	SDG 9
2	EEN 313	EEL 412	Linear Control Systems Lab	0+1	Major Based Core (Breadth)	SDG 9
3	XXXX	EEXXXX	Depth Elective (Core) I	3+0	Major Based Core (Depth)	Mentioned in relevant Electives
4	XXXX	EEXXXX	Depth Elective (Core) I Lab	0+1	Major Based Core (Depth)	Mentioned in relevant Electives
5	XXXX	EEXXXX	Depth Elective (Core) II	3+0	Major Based Core (Depth)	Mentioned in relevant Electives
6	XXXX	EEXXXX	Depth Elective (Core) II Lab	0+1	Major Based Core (Depth)	Mentioned in relevant Electives

7	EEN 312	EEN 433	Power Distribution and Utilization	3+0	Major Based Core (Breadth)	SDG 7, SDG 9
8	EEN 312	EEL 433	Power Distribution and Utilization Lab	0+1	Major Based Core (Breadth)	SDG 7, SDG 9
9	None	PAK 105	Pakistan Studies	2+0	Humanities (Culture)	SDG 4, SDG 16
Total Credit Hours				18		

Semester 7

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	PEC Category	17 UN SDGs alignment
1	None	ESC 496	Project-I	0+2	Final Year Design Project (FYDP) Part I	SDG 3, SDG 6, SDG 7, SDG 9, SDG 11, SDG 12, SDG 13
2	None	ENG 321	Technical Writing & Presentation Skills	3+0	Humanities (English)	SDG 4, SDG 17
3	XXXX	XXXX	Culture Elective-II	2+0	Humanities (Culture)	Mentioned in relevant Electives
4	XXXX	EEXXX	Depth Elective-III	3+0	Major Based Core (Depth) - Depth Elective III	Mentioned in relevant Electives
5	XXXX	EEXXX	Depth Elective-III Lab	0+1	Major Based Core (Depth) - Depth Elective III	Mentioned in relevant Electives
6	XXXX	EEXXX	Depth Elective-IV	3+0	Major Based Core (Depth) - Depth Elective IV	Mentioned in relevant Electives
7	XXXX	EEXXX	Depth Elective-IV Lab	0+1	Major Based Core (Depth) - Depth Elective IV	Mentioned in relevant Electives
8	XXXX	XXXX	MDEE-II	3+0	Multidisciplinary Engineering Electives	Mentioned in relevant Electives
9	None	ISL 113	Seerah-I*	0	Religious Education (Gen. Education)	SDG 4, SDG 5, SDG 10, SDG 16
Total Credit Hours				18		

Semester 8

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	PEC Category	17 UN SDGs alignment
1	XXXX	ESC 497	Project-II	0+4	Final Year Design Project (FYDP) Part II	SDG 3, SDG 6, SDG 7, SDG 9, SDG 11, SDG 12, SDG 13
2	None	XXXX	Social Science Elective-II	2+0	Humanities (Social Science)	Mentioned in relevant Electives
3	XXXX	XXXX	Professional Practice / Management Elective-II	2+0	Management Science (Professional Practice)	Mentioned in relevant Electives
4	None	XXXX	Depth Elective-V	3+0	Major Based Core (Depth) - Depth Elective V	Mentioned in relevant Electives
5	XXXX	XXXX	Depth Elective-VI	3+0	Major Based Core (Depth) - Depth Elective VI	Mentioned in relevant Electives
6	None	XXXX	CIS Elective-III	3+0	Flexible Elective	Mentioned in relevant Electives
7	None	ISL 114	Seerah-II*	0	Religious Education (Gen. Education)	SDG 4, SDG 5, SDG 10, SDG 16
Total Credit Hours				17		

Non-Engineering Domain Electives:

List of Natural Science Electives [Math Electives]

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	PEC Category	17 UN SDGs alignment
1	GSC 123	GSC 211	Multivariable Calculus	3+0	Natural Sciences (Mathematics)	SDG 4, SDG 12
2	GSC 123	GSC 320	Numerical Analysis	3+0	Natural Sciences (Mathematics)	SDG 4, SDG 9
3	GSC 123	GSC 221	Discrete Mathematics	3+0	Natural Sciences (Mathematics)	SDG 4, SDG 12

List of Humanities Electives

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	PEC Category	17 UN SDGs alignment
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Culture Electives

Culture – I (2+0) [Islamic Studies or Ethics]

1	None	ISL 101	Islamic Studies	2+0	Humanities (Culture)	SDG 4, SDG 5, SDG 10, SDG 16
2	None	HSS 116	Ethics (For non-Muslims only)	2+0	Humanities (Culture)	SDG 4, SDG 5, SDG 10, SDG 16

Culture – II (2+0) [Arts & Humanities]

3	None	ENG 134	Communication Skills	2+0	Humanities (Culture)	SDG 4, SDG 8
4	None	HSS 462	Foreign Language	2+0	Humanities (Culture)	SDG 4, SDG 8
5	None	HSS 163	Chinese	2+0	Humanities (Culture)	SDG 4, SDG 8
6	None	HSS 109	Arabic	2+0	Humanities (Culture)	SDG 4, SDG 8
7	None	HSS 160	French	2+0	Humanities (Culture)	SDG 4, SDG 8
8	None	HSS 164	German	2+0	Humanities (Culture)	SDG 4, SDG 8
9	None	HSS 214	Turkish	2+0	Humanities (Culture)	SDG 4, SDG 8
10	None	HSS 161	Russian	2+0	Humanities (Culture)	
11	None	HSS 162	Spanish	2+0	Humanities (Culture)	

Social Science Electives

Social Science Elective – I (2+0) [Social Science]

10	None	HSS 456	Organizational Behavior	2+0	Humanities (Social Science)	SDG 8
11	None	HSS 413	Sociology for Engineers	2+0	Humanities (Social Science)	SDG 10
12	None	SOC 112	Critical Reasoning & Logic	2+0	Humanities (Social Science)	SDG 4
13	None	HSS 119	Introduction to International Relations	2+0	Humanities (Social Science)	SDG 16
14	None	PSY 102	Introduction to Psychology	2+0	Humanities (Social Science)	SDG 3

Social Science Elective – II (2+0) [Civics and Community Engagement]

15	None	HSS 424	Engineering Ethics	2+0	Humanities (Social Science)	SDG 16
16	None	MGT 421	Leadership	2+0	Humanities (Social Science)	SDG 4, SDG 8
17	None	MGT 422	Personal Grooming	2+0	Humanities (Social Science)	SDG 8
18	None	HSS 219	Civics and Community Engagement	2+0	Humanities (Social Science)	SDG 3, SDG 11

List of Management Science Electives

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	PEC Category	17 UN SDGs alignment
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Professional Practice / Management Elective – I (2+0) [Project Management]

1	None	MGT 111	Principles of Management	2+0	Management Science (Professional Practice)	SDG 8, SDG 9
2	None	MGT 423	Engineering Management	2+0	Management Science (Professional Practice)	SDG 8, SDG 9

3	None	MGT 425	Project Management in Engineering	2+0	Management Science (Professional Practice)	SDG 8, SDG 9
Professional Practice / Management Elective – II (2+0) [Entrepreneurship]						
4	None	HSS 412	Engineering Economics	2+0	Management Science (Professional Practice)	SDG 8
5	None	HSS 423	Entrepreneurship	2+0	Management Science (Professional Practice)	SDG 12
6	None	MGT 426	Sales and Marketing Strategies for Engineers	2+0	Management Science (Professional Practice)	SDG 8, SDG 9

List of Basic Computing Electives (2+1) [Applications of ICT]						
Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	PEC Category	17 UN SDGs alignment
1	CSC 111	CSC 112	Programming Fundamentals	2+0	Computer Science (Basic Computing)	SDG 4, SDG 9
2	CSC 111	CSL 112	Programming Fundamentals Lab	0+1	Computer Science (Basic Computing)	SDG 4, SDG 9
3	CSC 111	GEO 321	Computing with MATLAB	2+0	Computer Science (Basic Computing)	SDG 4, SDG 9
4	CSC 111	GEL 321	Computing with MATLAB Lab	0+1	Computer Science (Basic Computing)	SDG 4, SDG 9
5	CSC 111	AIC 202	Programming for Artificial Intelligence	2+0	Computer Science (Basic Computing)	SDG 4, SDG 9
6	CSC 111	AIL 202	Programming for Artificial Intelligence Lab	0+1	Computer Science (Basic Computing)	SDG 4, SDG 9

Engineering Domain Electives:

List of Computing and Information Science (CIS) Elective I (3+1)						
Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	PEC Category	17 UN SDGs alignment
1	CSC 112	CSC 210	Object Oriented Programming	3+0	Advanced Computer and Information Sciences	SDG 4, SDG 9
2	CSC 112	CSL 210	Object Oriented Programming Lab	0+1	Advanced Computer and Information Sciences	SDG 4, SDG 9
3	None	CSC 221	Data Structure and Algorithm	3+0	Advanced Computer and Information Sciences	SDG 4, SDG 9
4	None	CSL 221	Data Structure and Algorithm Lab	0+1	Advanced Computer and Information Sciences	SDG 4, SDG 9
5	None	AIC 201	Artificial Intelligence	3+0	Advanced Computer and Information Sciences	SDG 9, SDG 16
6	None	AIL 201	Artificial Intelligence Lab	0+1	Advanced Computer and Information Sciences	SDG 9, SDG 16
Computing and Information Science (CIS) Elective II / Elective III (3+0)						
7	None	EET 462	Cryptography and Network Security	3+0	Advanced Computer and Information Sciences	SDG 9, SDG 16
8	None	ITC 411	Cyber Security	3+0	Advanced Computer and Information Sciences	SDG 9, SDG 16
9	None	CSC 419	Introduction to Machine Learning	3+0	Advanced Computer and Information Sciences	SDG 4, SDG 9
10	None	CSC 448	Introduction to Bioinformatics	3+0	Advanced Computer and Information Sciences	SDG 4, SDG 9

11	None	CSC 441	Natural Language Processing	3+0	Advanced Computer and Information Sciences	SDG 4, SDG 9
12	None	CSC 449	Neural Networks & Fuzzy Logic	3+0	Advanced Computer and Information Sciences	SDG 4, SDG 9
13	None	CSC 410	Introduction to Cloud Computing	3+0	Advanced Computer and Information Sciences	SDG 9

List of Multi-Disciplinary EE (MDEE) Electives

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	PEC Category	17 UN SDGs alignment
MDEE – I (2+0)						
1	None	ESC 111	Basic Mechanical Engineering	2+0	Multidisciplinary Engineering Electives	SDG 7, SDG 9
2	None	GSC 486	Geographical Information System	2+0	Multidisciplinary Engineering Electives	SDG 11, SDG 15
3	None	ENV 440	Energy and Environment	2+0	Multidisciplinary Engineering Electives	SDG 7, SDG 13
4	None	MTE 101	Maritime Technologies	2+0	Multidisciplinary Engineering Electives	SDG 14
MDEE – II (3+0)						
5	None	EEN 450	Introduction to Sports Engineering	3+0	Multidisciplinary Engineering Electives	SDG 9
6	None	EEN 438	Introduction to Biomedical Engineering	3+0	Multidisciplinary Engineering Electives	SDG 3, SDG 9
7	None	EET 461	Industrial Internet Of Things (IIoTs)	3+0	Multidisciplinary Engineering Electives	SDG 9
8	None	CEN 452	VLSI Design	3+0	Multidisciplinary Engineering Electives	SDG 3, SDG 8, SDG 9
9	None	CSC 328	System Integration & Architecture	3+0	Multidisciplinary Engineering Electives	SDG 3, SDG 8, SDG 9
10	None	MTM 101	Introduction to Maritime Industry	3+0	Multidisciplinary Engineering Electives	SDG 3, SDG 8, SDG 9
11	None	ECO 521	Marine Technology	3+0	Multidisciplinary Engineering Electives	SDG 3, SDG 8, SDG 9

List of Major Based Core (MBC) Depth Electives:

Telecommunication Stream Depth Elective (Core) I & II (3+1)						
Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	PEC Category	17 UN SDGs alignment
1	EEN 313	CEN 223	Computer Communication & Networks	3+0	Major Based Core (Depth)	SDG 9
2	EEN 313	CEL 223	Computer Communication & Networks Lab	0+1	Major Based Core (Depth)	SDG 9
3	EEN 224	EEN 225	Electronic Circuit Design	3+0	Major Based Core (Depth)	SDG 9
4	EEN 224	EEL 225	Electronic Circuit Design Lab	0+1	Major Based Core (Depth)	SDG 9
Telecommunication Stream Depth Electives (3+1)						
5	EEN 311	EEN 431	RF and Microwave Engineering	3+0	Major Based Core (Depth) Elective	SDG 9
6	EEN 311	EEL 431	RF and Microwave Engineering Lab	0+1	Major Based Core (Depth) Elective	SDG 9

7	GSC 113	EET 463	Optical Fiber Communication	3+0	Major Based Core (Depth) Elective	SDG 9
8	GSC 113	EEL 463	Optical Fiber Communication Lab	0+1	Major Based Core (Depth) Elective	SDG 9
9	EEN 311	EET 447	Radar Systems	3+0	Major Based Core (Depth) Elective	SDG 9
10	EEN 311	EEL 447	Radar Systems Lab	0+1	Major Based Core (Depth) Elective	SDG 9
11	EET 321	EEN 436	Wireless and Mobile Communication	3+0	Major Based Core (Depth) Elective	SDG 9
12	EET 321	EEL 436	Wireless and Mobile Communication Lab	0+1	Major Based Core (Depth) Elective	SDG 9
13	EET 321	EET 449	Satellite Communications	3+0	Major Based Core (Depth) Elective	SDG 9
14	EET 321	EEL 449	Satellite Communications Lab	0+1	Major Based Core (Depth) Elective	SDG 9
15	EEN 311	EET 451	Wave Propagation and Antennas	3+0	Major Based Core (Depth) Elective	SDG 9
16	EEN 311	EEL 451	Wave Propagation and Antennas Lab	0+1	Major Based Core (Depth) Elective	SDG 9
17	CEN 223	EET 452	Multimedia Communications	3+0	Major Based Core (Depth) Elective	SDG 9
18	CEN 223	EEL 452	Multimedia Communications Lab	0+1	Major Based Core (Depth) Elective	SDG 9
19	None	CSC 453	Information Theory	3+0	Major Based Core (Depth) Elective	SDG 9
20	None	CSL 453	Information Theory Lab	0+1	Major Based Core (Depth) Elective	SDG 9
21	EET 321	EET 411	Digital Communications	3+0	Major Based Core (Depth) Elective	SDG 9
22	EET 321	EEL 411	Digital Communications Lab	0+1	Major Based Core (Depth) Elective	SDG 9
23	CEN 120	CEN 441	FPGA- Based System Design	3+0	Major Based Core (Depth) Elective	SDG 9
24	CEN 120	CEL 441	FPGA- Based System Design Lab	0+1	Major Based Core (Depth) Elective	SDG 9
25	EEN 224	EEN 469	Linear Integrated Circuits and Applications	3+0	Major Based Core (Depth) Elective	SDG 9
26	EEN 224	EEL 469	Linear Integrated Circuits and Applications Lab	0+1	Major Based Core (Depth) Elective	SDG 9
27	EEN 224	EEN 316	Instrumentation and measurement	3+0	Major Based Core (Depth) Elective	SDG 9
28	EEN 224	EEL 316	Instrumentation and measurement Lab	0+1	Major Based Core (Depth) Elective	SDG 9
29	None	EEN 462	Introduction to Quantum Computing Reorganization	3+0	Major Based Core (Depth) Elective	SDG 9
30	None	EEL 462	Introduction to Quantum Computing Reorganization Lab	0+1	Major Based Core (Depth) Elective	SDG 9
31	EEN 313	EEN 325	Digital Signal Processing	3+0	Major Based Core (Depth) Elective	SDG 9

32	EEN 313	EEL 325	Digital Signal Processing Lab	0+1	Major Based Core (Depth) Elective	SDG 9
33	None	EET 456	Telecom Transmission & Switching Systems	3+0	Major Based Core (Depth) Elective	SDG 9
34	None	EEL 456	Telecom Transmission & Switching Systems Lab	0+1	Major Based Core (Depth) Elective	SDG 9
Telecommunication Stream Depth Electives (3+0)						
35	EET 321	EET 407	Next Generation Network	3+0	Major Based Core (Depth) Elective	SDG 9
36	EET 321	EET 461	Industrial Internet Of Things (IIoTs)	3+0	Major Based Core (Depth) Elective	SDG 9
37	None	EET 471	Emerging Wireless Technologies and RF planning	3+0	Major Based Core (Depth) Elective	SDG 9
38	None	EET 472	Telecommunication policies and standards	3+0	Major Based Core (Depth) Elective	SDG 9
39	None	EET 459	Introduction to Block chain	3+0	Major Based Core (Depth) Elective	SDG 9
40	None	EEN 451	System Engineering	3+0	Major Based Core (Depth) Elective	SDG 9
41	None	CSC 464	Computer Vision	3+0	Major Based Core (Depth) Elective	SDG 9
42	EEN 313	CEN 444	Digital Image Processing	3+0	Major Based Core (Depth) Elective	SDG 9
Electronics Stream Depth Elective (Core) I & II (3+1)						
Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	PEC Category	17 UN SDGs alignment
1	EEN 224	EEN 468	Power Electronics	3+0	Major Based Core (Depth)	SDG 7, SDG 9
2	EEN 224	EEL 468	Power Electronics Lab	0+1	Major Based Core (Depth)	SDG 7, SDG 9
3	EEN 224	EEN 225	Electronic Circuit Design	3+0	Major Based Core (Depth)	SDG 9
4	EEN 224	EEL 225	Electronic Circuit Design Lab	0+1	Major Based Core (Depth)	SDG 9
Electronics Stream Depth Electives (3+1)						
5	EEN 224	EEN 316	Instrumentation and measurement	3+1	Major Based Core (Depth) Elective	SDG 9
6	EEN 224	EEL 316	Instrumentation and measurement Lab	0+1	Major Based Core (Depth) Elective	SDG 9
7	EEN 224	EEN 462	Integrated Electronics	3+0	Major Based Core (Depth) Elective	SDG 9
8	EEN 224	EEL 462	Integrated Electronics Lab	0+1	Major Based Core (Depth) Elective	SDG 9
9	None	EEN 441	Industrial Process Control	3+0	Major Based Core (Depth) Elective	SDG 9
10	None	EEL 441	Industrial Process Control Lab	0+1	Major Based Core (Depth) Elective	SDG 9
11	EEN 224	EEN 442	Digital Electronics	3+0	Major Based Core (Depth) Elective	SDG 9
12	EEN 224	EEL 442	Digital Electronics Lab	0+1	Major Based Core (Depth) Elective	SDG 9

13	EEN 224	EEN 444	Opto Electronics	3+0	Major Based Core (Depth) Elective	SDG 9
14	EEN 224	EEL 444	Opto Electronics Lab	0+1	Major Based Core (Depth) Elective	SDG 9
15	EEN 224	CEN 452	VLSI Design	3+0	Major Based Core (Depth) Elective	SDG 9
16	EEN 224	CEL 452	VLSI Design Lab	0+1	Major Based Core (Depth) Elective	SDG 9
17	EEN 224	EEN 445	Industrial Electronics	3+0	Major Based Core (Depth) Elective	SDG 9
18	EEN 224	EEL 445	Industrial Electronics Lab	0+1	Major Based Core (Depth) Elective	SDG 9
19	CEN 120	CEN 442	Digital System Design	3+0	Major Based Core (Depth) Elective	SDG 9
20	CEN 120	CEL 442	Digital System Design Lab	0+1	Major Based Core (Depth) Elective	SDG 9
21	EEN 224	EEN 469	Linear Integrated Circuits & Applications	3+0	Major Based Core (Depth) Elective	SDG 9
22	EEN 224	EEL 469	Linear Integrated Circuits & Applications Lab	0+1	Major Based Core (Depth) Elective	SDG 9
23	EEN 224	EEN 435	Solid State Devices	3+0	Major Based Core (Depth) Elective	SDG 9
24	EEN 224	EEL 435	Solid State Devices Lab	0+1	Major Based Core (Depth) Elective	SDG 9
25	EEN 412	EEN 437	Digital Control Systems	3+0	Major Based Core (Depth) Elective	SDG 9
26	EEN 412	EEL 437	Digital Control Systems Lab	0+1	Major Based Core (Depth) Elective	SDG 9
27	CEN 120	CEN 441	FPGA- Based System Design	3+0	Major Based Core (Depth) Elective	SDG 9
28	CEN 120	CEL 441	FPGA- Based System Design Lab	0+1	Major Based Core (Depth) Elective	SDG 9
29	EEN 312	EEN 420	Industrial Automation	3+0	Major Based Core (Depth) Elective	SDG 9
30	EEN 312	EEL 420	Industrial Automation Lab	0+1	Major Based Core (Depth) Elective	SDG 9
31	EEN 224	EEN 471	Microelectronics Technology	3+0	Major Based Core (Depth) Elective	SDG 9
32	EEN 224	EEL 471	Microelectronics Technology Lab	0+1	Major Based Core (Depth) Elective	SDG 9
33	EEN 313	CEN 222	Data Communication & Networking	3+0	Major Based Core (Depth) Elective	SDG 9
34	EEN 313	CEL 222	Data Communication & Networking Lab	0+1	Major Based Core (Depth) Elective	SDG 9
35	EEN 412	CEN 458	Robotics	3+0	Major Based Core (Depth) Elective	SDG 9
36	EEN 412	CEL 458	Robotics Lab	0+1	Major Based Core (Depth) Elective	SDG 9
37	EEN 311	EET 451	Wave Propagation and Antennas	3+0	Major Based Core (Depth) Elective	SDG 9

38	EEN 311	EEL 451	Wave Propagation and Antennas Lab	0+1	Major Based Core (Depth) Elective	SDG 9
39	EEN 311	EEN 431	RF and Microwave Engineering	3+0	Major Based Core (Depth) Elective	SDG 9
40	EEN 311	EEL 431	RF and Microwave Engineering Lab	0+1	Major Based Core (Depth) Elective	SDG 9
41	None	EEN 453	Micro Electromechanical Systems (MEMS)	3+0	Major Based Core (Depth) Elective	SDG 9
42	None	EEL 453	Micro Electromechanical Systems (MEMS) Lab	0+1	Major Based Core (Depth) Elective	SDG 9
43	EEN 313	EEN 325	Digital Signal Processing	3+0	Major Based Core (Depth) Elective	SDG 9
44	EEN 313	EEL 325	Digital Signal Processing Lab	0+1	Major Based Core (Depth) Elective	SDG 9
Electronics Stream Depth Electives (3+0)						
45	EEN 224	EEN 466	Introduction to Nano Technology	3+0	Major Based Core (Depth) Elective	SDG 9
46	EEN 313	CEN 444	Digital Image Processing	3+0	Major Based Core (Depth) Elective	SDG 9
47	EEN 211	ESC 471	Biomedical Instrumentation	3+0	Major Based Core (Depth) Elective	SDG 3, SDG 9
48	None	ESC 472	Medical Robots	3+0	Major Based Core (Depth) Elective	SDG 3, SDG 9
49	None	CSC-464	Computer Vision	3+0	Major Based Core (Depth) Elective	SDG 9
50	None	EEN 451	System Engineering	3+0	Major Based Core (Depth) Elective	SDG 9
Power Stream Depth Elective (Core) I & II (3+1)						
Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	PEC Category	17 UN SDGs alignment
1	EEN 211	EEP 331	Power System Analysis	3+0	Major Based Core (Depth)	SDG 7, SDG 9
2	EEN 211	EEL 331	Power System Analysis Lab	0+1	Major Based Core (Depth)	SDG 7, SDG 9
3	EEN 312	EEP 442	Power Generation	3+0	Major Based Core (Depth)	SDG 7, SDG 9, SDG 11
4	EEN 312	EEL 442	Power Generation Lab	0+1	Major Based Core (Depth)	SDG 7, SDG 9, SDG 11
Power Stream Depth Electives (3+1)						
5	EEN 224	EEN 316	Instrumentation and Measurements	3+0	Major Based Core (Depth) Elective	SDG 9
6	EEN 224	EEL 316	Instrumentation and Measurements Lab	0+1	Major Based Core (Depth) Elective	SDG 9
7	EEN 312	EEP 441	Advanced Electrical Machines	3+0	Major Based Core (Depth) Elective	SDG 9
8	EEN 312	EEL 441	Advanced Electrical Machines Lab	0+1	Major Based Core (Depth) Elective	SDG 9
9	EEN 312	EEP 442	Power Generation	3+0	Major Based Core (Depth) Elective	SDG 7, SDG 9

10	EEN 312	EEL 442	Power Generation Lab	0+1	Major Based Core (Depth) Elective	SDG 7, SDG 9
11	EEN 224	EEP 443	Electrical Power Transmission	3+0	Major Based Core (Depth) Elective	SDG 7, SDG 9
12	EEN 224	EEL 443	Electrical Power Transmission Lab	0+1	Major Based Core (Depth) Elective	SDG 7, SDG 9
13	EEN 224	EEP 468	Power Electronics	3+0	Major Based Core (Depth) Elective	SDG 7, SDG 9
14	EEN 224	EEL 468	Power Electronics Lab	0+1	Major Based Core (Depth) Elective	SDG 7, SDG 9
15	EEN 211	EEP 444	Power System Protection	3+0	Major Based Core (Depth) Elective	SDG 7, SDG 9
16	EEN 211	EEL 444	Power System Protection Lab	0+1	Major Based Core (Depth) Elective	SDG 7, SDG 9
17	EEN 312	EEP 471	Electrical Machine Design and Maintenance	3+0	Major Based Core (Depth) Elective	SDG 9
18	EEN 312	EEL 471	Electrical Machine Design and Maintenance Lab	0+1	Major Based Core (Depth) Elective	SDG 9
19	EEN 211	EEP 446	High Voltage Engineering	3+0	Major Based Core (Depth) Elective	SDG 7, SDG 9
20	EEN 211	EEL 446	High Voltage Engineering Lab	0+1	Major Based Core (Depth) Elective	SDG 7, SDG 9
21	EEN 313	EEN 325	Digital Signal Processing	3+0	Major Based Core (Depth) Elective	SDG 9
22	EEN 313	EEL 325	Digital Signal Processing Lab	0+1	Major Based Core (Depth) Elective	SDG 9
23	EEN 224	EEP 472	Industrial Drives	3+0	Major Based Core (Depth) Elective	SDG 9
24	EEN 224	EEL 472	Industrial Drives Lab	0+1	Major Based Core (Depth) Elective	SDG 9
25	EEN 433	EEP 475	FACTS and HVDC Transmission	3+0	Major Based Core (Depth) Elective	SDG 7, SDG 9
26	EEN 433	EEL 475	FACTS and HVDC Transmission Lab	0+1	Major Based Core (Depth) Elective	SDG 7, SDG 9
27	EEN 313	CEN 222	Data Communication & Networking	3+0	Major Based Core (Depth) Elective	SDG 9
28	EEN 313	CEL 222	Data Communication & Networking Lab	0+1	Major Based Core (Depth) Elective	SDG 9
29	EEN 412	EEN 437	Digital Control System	3+0	Major Based Core (Depth) Elective	SDG 9
30	EEN 412	EEL 437	Digital Control System Lab	0+1	Major Based Core (Depth) Elective	SDG 9
31	EEN 224	EEN 469	Linear Integrated Circuits and Applications	3+0	Major Based Core (Depth) Elective	SDG 9
32	EEN 224	EEL 469	Linear Integrated Circuits and Applications Lab	0+1	Major Based Core (Depth) Elective	SDG 9
33	EEN 224	EEP 474	PLC and Industrial Drives	3+0	Major Based Core (Depth) Elective	SDG 9
34	EEN 224	EEL 474	PLC and Industrial Drives Lab	0+1	Major Based Core (Depth) Elective	SDG 9

35	EEN 224	EEN 445	Industrial Electronics	3+0	Major Based Core (Depth) Elective	SDG 7, SDG 9
36	EEN 224	EEL 445	Industrial Electronics Lab	0+1	Major Based Core (Depth) Elective	SDG 7, SDG 9
37	None	EEP 448	Renewable Energy Systems	3+0	Major Based Core (Depth) Elective	SDG 7, SDG 9
38	None	EEL 448	Renewable Energy Systems Lab	0+1	Major Based Core (Depth) Elective	SDG 7, SDG 9
Power Stream Depth Electives (3+0)						
39	EEP 331	EEP 445	Power System Stability & Control	3+0	Major Based Core (Depth) Elective	SDG 7, SDG 9
40	None	EEP 474	Smart Grid	3+0	Major Based Core (Depth) Elective	SDG 7, SDG 9
41	None	EEP 449	Distributed Generation and its Grid Integration	3+0	Major Based Core (Depth) Elective	SDG 7, SDG 9
42	None	EEP 450	Power System Economics	3+0	Major Based Core (Depth) Elective	SDG 8, SDG 9
43	None	EEP 451	Optimization Methods in Modern Power Systems	3+0	Major Based Core (Depth) Elective	SDG 9
44	None	EEP 452	LV and HV Electrical Installation guides and Standards	3+0	Major Based Core (Depth) Elective	SDG 9
Computer Systems Stream Depth Elective (Core) I & II (3+1)						
Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	PEC Category	17 UN SDGs alignment
1	EEN 313	CEN 223	Computer Communication & Networks	3+0	Major Based Core (Depth)	SDG 7, SDG 9
2	EEN 313	CEL 223	Computer Communication & Networks Lab	0+1	Major Based Core (Depth)	SDG 7, SDG 9
3	None	CSC 320	Operating Systems	3+0	Major Based Core (Depth)	SDG 7, SDG 11
4	None	CSL 320	Operating Systems Lab	0+1	Major Based Core (Depth)	SDG 7, SDG 11
Computer Systems Stream Depth Electives (3+1)						
5	EEN 313	CEN 222	Data Communication and Networking	3+1	Major Based Core (Depth) Elective	SDG 9
6	EEN 313	CEL 222	Data Communication and Networking Lab	0+1	Major Based Core (Depth) Elective	SDG 9
7	EEN 313	CSC 402	Image and Video Coding	3+1	Major Based Core (Depth) Elective	SDG 9
8	EEN 313	CSL 402	Image and Video Coding Lab	0+1	Major Based Core (Depth) Elective	SDG 9
9	None	CEN 408	System and Network Security	3+1	Major Based Core (Depth) Elective	SDG 9
10	None	CEL 408	System and Network Security Lab	0+1	Major Based Core (Depth) Elective	SDG 9
11	None	CEN 442	Digital System Design	3+1	Major Based Core (Depth) Elective	SDG 9
12	None	CEL 442	Digital System Design Lab	0+1	Major Based Core (Depth) Elective	SDG 9

13	EEN 412	CEN 458	Robotics	3+1	Major Based Core (Depth) Elective	SDG 9
14	EEN 412	CEL 458	Robotics Lab	0+1	Major Based Core (Depth) Elective	SDG 9
15	EEN 412	EEN 437	Digital Control	3+1	Major Based Core (Depth) Elective	SDG 9
16	EEN 412	EEL 437	Digital Control Lab	0+1	Major Based Core (Depth) Elective	SDG 9
17	EEN 313	EEN 325	Digital Signal Processing	3+1	Major Based Core (Depth) Elective	SDG 9
18	EEN 313	EEL 325	Digital Signal Processing Lab	0+1	Major Based Core (Depth) Elective	SDG 9
Computer Systems Stream Depth Electives (3+0)						
19	None	CSC 220	Database Management Systems	3+0	Major Based Core (Depth) Elective	SDG 9
20	CEN 223	CEN 444	Digital Image Processing	3+0	Major Based Core (Depth) Elective	SDG 9
21	None	CSC 444	Computer Graphics	3+0	Major Based Core (Depth) Elective	SDG 9
22	None	CSC 464	Computer Vision	3+0	Major Based Core (Depth) Elective	SDG 9
23	CEN 120	CSC 403	Computer Organization	3+0	Major Based Core (Depth) Elective	SDG 9
24	None	EEN 452	Unmanned Aerial Vehicles	3+0	Major Based Core (Depth) Elective	SDG 9
25	EET 321	EET 461	Industrial Internet Of Things (IIoTs)	3+0	Major Based Core (Depth) Elective	SDG 9
Electric Vehicles Stream Depth Elective (Core) I & II (3+1)						
Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	PEC Category	17 UN SDGs alignment
1	EEN 224	EEN 409	Automotive Engineering	3+0	Major Based Core (Depth)	SDG 7, SDG 9
2	EEN 224	EEL 409	Automotive Engineering Lab	0+1	Major Based Core (Depth)	SDG 7, SDG 9
3	EEN 211	EEV 410	EV Charging Devices and Technologies	3+0	Major Based Core (Depth)	SDG 7, SDG 9, SDG 11
4	EEN 211	EEL 410	EV Charging Devices and Technologies Lab	0+1	Major Based Core (Depth)	SDG 7, SDG 9, SDG 11
Electric Vehicles Stream Depth Electives (3+1)						
5	EEN 433	EEV 404	EV batteries and Ancillaries	3+0	Major Based Core (Depth) Elective	SDG 9
6	EEN 433	EEL 404	EV batteries and Ancillaries Lab	0+1	Major Based Core (Depth) Elective	SDG 9
7	EEN 412	EEV 405	EV Control Systems	3+0	Major Based Core (Depth) Elective	SDG 8, SDG 9
8	EEN 412	EEL 405	EV Control Systems Lab	0+1	Major Based Core (Depth) Elective	SDG 8, SDG 9
9	EEN 211	EEV XXX	EV Circuit and Electronics	3+0	Major Based Core (Depth) Elective	SDG 9
10	EEN 211	EEL XXX	EV Circuit and Electronics Lab	0+1	Major Based Core (Depth) Elective	SDG 9

12	None	EEL 407	EV Body and Chassis Design Lab	0+1	Major Based Core (Depth) Elective	SDG 9
13	EEN 312	EEV 408	EV Dynamics	3+0	Major Based Core (Depth) Elective	SDG 7, SDG 9
14	EEN 312	EEL 408	EV Dynamics Lab	0+1	Major Based Core (Depth) Elective	SDG 7, SDG 9
15	EEN 224	EEN 316	Instrumentation and Measurements	3+0	Major Based Core (Depth) Elective	SDG 9
16	EEN 224	EEL 316	Instrumentation and Measurements Lab	0+1	Major Based Core (Depth) Elective	SDG 9
17	EEN 312	EEP 441	Advanced Electrical Machines	3+0	Major Based Core (Depth) Elective	SDG 9
18	EEN 312	EEL 441	Advanced Electrical Machines Lab	0+1	Major Based Core (Depth) Elective	SDG 9
19	EEN 312	EEP 471	Electrical Machine Design and Maintenance	3+0	Major Based Core (Depth) Elective	SDG 9
20	EEN 312	EEL 471	Electrical Machine Design and Maintenance Lab	0+1	Major Based Core (Depth) Elective	SDG 9
23	EEN 224	EEP 472	Industrial Drives	3+0	Major Based Core (Depth) Elective	SDG 9
24	EEN 224	EEL 472	Industrial Drives Lab	0+1	Major Based Core (Depth) Elective	SDG 9
25	EEN 433	EEP 475	FACTS and HVDC Transmission	3+0	Major Based Core (Depth) Elective	SDG 9
26	EEN 433	EEL 475	FACTS and HVDC Transmission Lab	0+1	Major Based Core (Depth) Elective	SDG 9
27	EEN 313	CEN 222	Data Communication and Networking	3+1	Major Based Core (Depth) Elective	SDG 9
28	EEN 313	CEL 222	Data Communication and Networking Lab	0+1	Major Based Core (Depth) Elective	SDG 9
29	EEN 412	EEN 437	Digital Control System	3+0	Major Based Core (Depth) Elective	SDG 9
30	EEN 412	EEL 437	Digital Control System Lab	0+1	Major Based Core (Depth) Elective	SDG 9
33	EEN 224	EEN 469	Linear Integrated Circuits and Applications	3+0	Major Based Core (Depth) Elective	SDG 9
34	EEN 224	EEL 469	Linear Integrated Circuits and Applications Lab	0+1	Major Based Core (Depth) Elective	SDG 9
35	EEN 224	EEP 474	PLC and Industrial Drives	3+0	Major Based Core (Depth) Elective	SDG 9
36	EEN 224	EEL 474	PLC and Industrial Drives Lab	0+1	Major Based Core (Depth) Elective	SDG 9
37	EEN 224	EEN 445	Industrial Electronics	3+0	Major Based Core (Depth) Elective	SDG 9
38	EEN 224	EEL 445	Industrial Electronics Lab	0+1	Major Based Core (Depth) Elective	SDG 9
Electric Vehicles Stream Depth Electives (3+0)						
39	None	MAC 401	Marine Acoustic	3+0	Major Based Core (Depth) Elective	SDG 9

40	None	EEV 402	Autonomous Vehicles	3+0	Major Based Core (Depth) Elective	SDG 8, SDG 9
41	None	EEV 403	Vehicular Networking	3+0	Major Based Core (Depth) Elective	SDG 9, SDG 11
42	None	EEP 452	LV and HV Electrical Installation guides and Standards	3+0	Major Based Core (Depth) Elective	SDG 7, SDG 9

BS (Robotics & Intelligent Systems)

Program Title: BS (Robotics and Intelligent Systems)

Duration: 4 Years

Eligibility Criteria: Minimum 50% marks in Intermediate (HSSC) Examination (Pre-Engg./Comp Science/Pre-Medical/DAE in all relevant field) or equivalent qualifications with Mathematics certified by IBCC.

Semester-wise Road map

Semester 1

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1	None	GSC 114	Applied Physics	2+0	(Gen. Edu)	4, 7
2	None	GSL 113	Applied Physics Lab	0+1	(Gen. Edu)	4, 7
3	None	GSC 110	Applied Calculus and Analytical Geometry	3+0	(Gen. Edu)	4
4	None	ISL 101/ HSS 116	Islamic Studies*/ Ethics (For non-Muslims only)	2+0	Islamic Studies / Ethics (Gen. Edu)	4, 5, 10, 16
5	None	ENG 101	Functional English	3+0	Functional English (Gen. Edu)	4
6	None	CSC 110	Computing Fundamentals	2+0	Disciplinary	4
7	None	CSL 110	Computing Fundamentals Lab	0+1	Disciplinary	4
8	None	EEL 121	Engineering Drawing & CAD	0+1	Disciplinary	9
9	None	PAK 109	Ideology and constitution of Pakistan	2+0	Ideology and constitution of Pakistan (Gen Edu)	4,16
10	None	ISL 107	Tajweed*	0	Religious education	4, 10
11	None	GSC 103	Fundamentals of Mathematics - I	Non credited 3 hrs per week (Pre-medical students)	Deficiency Course for Pre-medical students only	4
Total Credit Hours				17		

Semester 2

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1	XXXX	XXXX	Social Sciences Elective-I	2+0	Social Science (Gen. Edu)	Mentioned in relevant Electives
2	GSC 110	GSC 123	Linear Algebra and Differential Equations	3+0	Quantitative Reasoning (Gen. Edu)	4
3	None	GSC 115	Circuit Analysis	3+0	Disciplinary	4, 9

Semester 3

4	None	GSL 115	Circuit Analysis Lab	0+1	Disciplinary	4, 9
5	CSC 110	CSC 113	Computer Programming	3+0	Applications of Information and Communication Technologies (ICT) (Gen. Edu)	4
6	CSC 110	CSL 113	Computer Programming Lab	0+1	Applications of ICT (Gen. Edu)	4
7	None	CEN 120	Digital Logic Design	3+0	Disciplinary	4, 8, 9
8	None	CEL 120	Digital Logic Design Lab	0+1	Disciplinary	4, 8, 9
9	None	ISL 203	Fehm-e-Quran-I *	0+1	Religious Education	4, 5, 10, 16
10	GSC 103	GSC 104	Fundamentals of Mathematics - II	Non credited 3 hrs per week (Pre-medical students)	Deficiency Course for Pre-medical students only	4
Total Credit Hours				18		

Semester 4

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1	GSC 110	GSC 220	Complex Variable & Transforms	3+0	Quantitative Reasoning (Gen. Edu)	4
2	None	XXXX	Management Elective	2+0	Management Science (Gen. Edu)	Mentioned in relevant Electives
3	None	RIS 231	Introduction to Robotics	3+0	Disciplinary	3, 4, 8, 9, 11, 16
4	None	RIL 231	Introduction to Robotics Lab	0+1	Disciplinary	3, 4, 8, 9, 11, 16
5	None	XXXX	Social Sciences Elective-II	2+0	Civics and Community Engagement Elective (Gen. Edu)	Mentioned in relevant Electives
6	None	ENG 123	Expository Writing	3+0	Expository Writing (Gen. Edu)	4
7	None	PAK 105	Pakistan Studies	2+0	Social Science (Gen. Edu)	10, 16
8		ISL 203	Fehmul Quran- II *	0+1	Religious Education	4, 5, 10, 16
Total Credit Hours				17		

Semester 5

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1	XXXX	XXXX	IDE – I	3+0	Interdisciplinary	Mentioned in relevant Electives
2	XXXX	XXXX	IDE - I Lab	0+1	Interdisciplinary	Mentioned in relevant Electives

3	None	CEN 409	Artificial Intelligence and Machine Learning	3+0	Disciplinary	3, 8, 9, 11, 16
4	None	CEL 409	Artificial Intelligence and Machine Learning Lab	0+1	Disciplinary	3, 8, 9, 11, 16
5	GSC 220	EEN 412	Linear Control System	3+0	Disciplinary	3, 9
6	GSC 220	EEL 412	Linear Control System Lab	0+1	Disciplinary	3, 9
7	None	RIS 241	Sensors & Actuators	3+0	Disciplinary	3, 8, 9, 11
8	None	RIL 241	Sensors & Actuators Lab	0+1	Disciplinary	3, 8, 9, 11
Total Credit Hours				16		

Semester 6

Sr. no.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1	XXXX	XXXX	IDE – II	3+0	Interdisciplinary	Mentioned in relevant Electives
2	XXXX	XXXX	IDE – II Lab	0+1	Interdisciplinary	Mentioned in relevant Electives
3	XXXX	XXXX	RIS Elective I	3+0	Major	Mentioned in relevant Electives
4	XXXX	XXXX	RIS Elective II	3+0	Major	Mentioned in relevant Electives
5	XXXX	XXXX	RIS Elective II Lab	0+1	Major	Mentioned in relevant Electives
6	None	ENG 320	Technical Writing & Presentation Skills	3+0	Expository Writing	None
7	CSC 210	RIS 361	Robotic System & Programming	3+0	Disciplinary	3, 9
8	CSC 210	RIL 361	Robotic System & Programming Lab	0+1	Disciplinary	3, 9
Total Credit Hours				18		

Semester 7

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1	EEN 412	RIS 362	Robot Modelling & Control	3+0	Disciplinary	3, 8, 9
2	EEN 412	RIL 362	Robot Modelling & Control Lab	0+1	Disciplinary	3, 8, 9
3	XXXX	XXXX	IDE – III	3+0	Interdisciplinary	Mentioned in relevant Electives

4	XXXX	XXXX	IDE – III Lab	0+1	Interdisciplinary	Mentioned in relevant Electives
5	XXXX	XXXX	RIS Elective III	3+0	Major	Mentioned in relevant Electives
6	XXXX	XXXX	RIS Elective III Lab	0+1	Major	Mentioned in relevant Electives
7	CEN 409	RIS 474	Introduction to Deep Learning	3+0	Disciplinary	3, 8, 9
8	CEN 409	RIL 474	Introduction to Deep Learning Lab	0+1	Disciplinary	3, 8, 9
9	None	ESC 496	Project -I	0+2	Capstone Project	1 to 17
10	None	ISL 113	Seerah-I*	0	Religious education	4, 5, 10, 16
Total Credit Hours				18		

* For Muslim Students

Semester 8

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1	None	ESC 497	Project-II	0+4	Capstone Project	1 to 17
2	RIS 231	RIS 481	Machine Vision & Robotics	3+0	Disciplinary	3, 8, 9
3	XXXX	XXXX	RIS Elective IV	3+0	Major	Mentioned in relevant Electives
4	None	XXXX	RIS Elective V	3+0	Major	Mentioned in relevant Electives
5	XXXX	XXXX	RIS Elective VI	3+0	Major	Mentioned in relevant Electives
6	None	ISL 114	Seerah-II*	0	Religious education	4, 5, 10, 16
Total Credit Hours				16		

* For Muslim Students

Field Experience (Internship Non-Credit)

List of Elective Courses: Interdisciplinary Electives (IDE 12 credit hours)

Interdisciplinary Electives (IDE 12 credit hours)						
Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1	CSC 210	CSC 221	Data Structures & Algorithm	3	Interdisciplinary	3, 4, 8, 9
2	CSC 210	CSL 221	Data Structures & Algorithm Lab	1	Interdisciplinary	3, 4, 8, 9
3	GSC 220	EEN 313	Signal & Systems	3	Interdisciplinary	3, 4, 8, 9
4	GSC 220	EEL 313	Signal & Systems Lab	1	Interdisciplinary	3, 4, 8, 9
5	GSC 115	EEN 224	Electronic Devices and Circuits	3	Interdisciplinary	3, 4, 8, 9
6	GSC 115	EEL 224	Electronic Devices and Circuits Lab	1	Interdisciplinary	3, 4, 8, 9
7	GSC 115	EEP 468	Power Electronics	3	Interdisciplinary	3, 4, 8, 9

8	GSC 115	EEL 468	Power Electronics Lab	1	Interdisciplinary	3, 4, 8, 9
9	None	CEN 223	Computer Communication & Networks	3	Interdisciplinary	3, 4, 8, 9
10	None	CEL 223	Computer Communication & Networks Lab	1	Interdisciplinary	3, 4, 8, 9
11	GSC 114	EEN 312	Electrical Machines	3	Interdisciplinary	3, 4, 8, 9
12	GSC 114	EEL 312	Electrical Machines Lab	1	Interdisciplinary	3, 4, 8, 9
13	GSC 114	EEN 316	Instrumentation and measurement	3	Interdisciplinary	3, 4, 8, 9
14	GSC 114	EEL 316	Instrumentation and measurement Lab	1	Interdisciplinary	3, 4, 8, 9
15	None	EET 321	Communication Systems	3	Interdisciplinary	3, 4, 8, 9
16	None	EEL 321	Communication Systems Lab	1	Interdisciplinary	3, 4, 8, 9
17	None	CEN 444	Digital Image Processing	3	Interdisciplinary	3, 4, 8, 9
18	None	CEL 444	Digital Image Processing Lab	1	Interdisciplinary	3, 4, 8, 9

List of Elective Courses: Robotics & Intelligent Systems Elective Courses (6 courses 20 credit hours)

Robotics & Intelligent Systems Elective Courses (6 courses 20 credit hours)						
Sr. No.	RIS Elective 3 + 0 (RIS Elective I, RIS Elective IV, RIS Elective V)					
	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1	None	EET 461	Industrial Internet Of Things (IIoTs)	3	Major	3, 8, 9
2	RIS 241	RIS 482	Introduction to Haptics	3	Major	3, 8, 9
3	RIS 362	RIS 483	Introduction to Humanoid Robots	3	Major	3, 8, 9
4	RIS 362	RIS 484	Advanced Modelling of Robotics	3	Major	3, 8, 9
5	GSC 123	RIS 485	Optimal Kinematic Design of Robots	3	Major	3, 8, 9
6	RIS 361	RIS 486	Distributive Robotics/Swarm Robotics	3	Major	3, 8, 9
7	None	CSC 410	Introduction to Cloud Computing	3	Major	3, 8, 9
8	GSC 114	RIS 489	Mechanics of Materials	3	Major	3, 8, 9
9	RIS 231	RIS 486	Swarm Robotics	3	Major	3, 8, 9
10	RIS 361	RIS 491	Cyber-Physical Systems in Robotics	3	Major	3, 8, 9
11	RIS 361	RIS 492	Networked Robotics	3	Major	3, 8, 9
12	CEN 409	RIS 493	Reinforced Learning	3	Major	3, 8, 9
13	None	RIS 494	Intelligent Aerial Robotics	3	Major	3, 8, 9
14	RIS 231	RIS 495	Robotics, AI and Environmental Sciences	3	Major	3, 8, 9
15	RIS 231	RIS 496	Robotic Navigation	3	Major	3, 8, 9
	RIS Elective 3 + 1 (RIS Elective II, RIS Elective III)					
16	None	RIS 471	Robot Process Automation	3	Major	3, 8, 9
17	None	RIS 471	Robot Process Automation Lab	1	Major	3, 8, 9
18	None	RIS 473	Introduction to R Programming	3	Major	3, 8, 9
19	None	RIL 473	Introduction to R Programming Lab	1	Major	3, 8, 9
20	CSC 210	CSC 464	Computer Vision	3	Major	3, 8, 9
21	CSC 210	CSL 464	Computer Vision Lab	1	Major	3, 8, 9
22	CEN 409	RIS 475	Human Robot Interaction	3	Major	3, 8, 9
23	CEN 409	RIL 475	Human Robot Interaction Lab	1	Major	3, 8, 9
24	CEN 409	RIS 476	Artificial Neural Network	3	Major	3, 8, 9
25	CEN 409	RIL 476	Artificial Neural Network Lab	1	Major	3, 8, 9

26	CEN 409	RIS 487	AI for Computer Games	3	Major	3, 8, 9
27	CEN 409	RIL 487	AI for Computer Games Lab	1	Major	3, 8, 9
28	CEN 409	RIS 488	Chatbots	3	Major	3, 8, 9
29	CEN 409	RIL 488	Chatbots Lab	1	Major	3, 8, 9
30	RIS 362	RIS 497	Fundamentals of Parallel Robots	3	Major	3, 8, 9
31	RIS 362	RIL 497	Fundamentals of Parallel Robots Lab	1	Major	3, 8, 9
RIS Elective 3 + 0 (RIS Elective VI)						
32	None	MTM 101	Introduction to Maritime Industry	3	Major	3, 8, 9
33	None	ECO 521	Marine Technology	3	Major	3, 8, 9

List of Elective Courses: Social Science Courses (4 credit hours)

Social Science Courses (4 credit hours)						
Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1	None	HSS 424	Engineering Ethics	2	Social Science (Gen. Edu)	5, 10, 11, 16, 17
2	None	HSS 119	Introduction to International Relations	2	Social Science (Gen. Edu)	5, 10, 11, 16, 17
3	None	HSS 219	Civics and Community Engagement	2	Social Science (Gen. Edu)	5, 10, 11, 16, 17

List of Elective Courses: Humanities (Culture) Courses (2 credit hours)

Humanities (Culture Electives) Courses (2 credit hours)						
Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1	None	ENG 134	Communication Skills	2	Arts and Humanities (Gen. Edu)	4, 17
2	None	HSS 462	Foreign Language	2	Arts and Humanities (Gen. Edu)	4, 17
3	None	HSS 109	Arabic	2	Arts and Humanities (Gen. Edu)	4, 17
4	None	HSS 163	Chinese	2	Arts and Humanities (Gen. Edu)	4, 17
5	None	HSS 160	French	2	Arts and Humanities (Gen. Edu)	4, 17
6	None	HSS 164	German	2	Arts and Humanities (Gen. Edu)	4, 17
7	None	HSS 214	Turkish	2	Arts and Humanities (Gen. Edu)	4, 17
8	None	HSS 161	Russian	2	Arts and Humanities (Gen. Edu)	4, 17
9	None	HSS 162	Spanish	2	Arts and Humanities (Gen. Edu)	4, 17

List of Elective Courses: Management Science Courses (2 credit hours)

Management Science Courses (2 credit hours)						
Sr.No	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1	None	HSS 423	Entrepreneurship	2	Entrepreneurship (Gen. Edu)	8, 11, 16, 17
2	None	MGT 421	Leadership	2	Entrepreneurship (Gen. Edu)	8, 11, 16, 17
3	None	EMG 222	Principles of Management	2	Entrepreneurship (Gen. Edu)	8, 11, 16, 17
4	None	HSS 412	Engineering Economics	2	Entrepreneurship (Gen. Edu)	8, 11, 16, 17

List of Interdisciplinary Courses for Non-Muslim Students (2 credit hours):

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1	None	HSS 217	Introduction to Sociology	2	General Education	4, 5, 10, 16
2	None	CSC 308	Professional Practices & Ethics	2	General Education	4, 5, 10, 16
3	None	HSS 218	Introduction to Anthropology	2	General Education	4, 5, 10, 16

MS (Electrical Engineering)

Program Title: MS (Electrical Engineering)

Duration: 2 Years

Eligibility Criteria: Four Year Degree in Electrical/Electronic/Computer or Allied Discipline with minimum CGPA 2.00/4.0 or 50% marks. Students will be required to complete deficiency in earned credit hours.

Graduates from other engineering disciplines or 16-year degree in Computer Science, Electronics, Physics or any related discipline may be eligible for this program, subject to passing the prerequisite courses with minimum GPA 3.00 of 4.0 in each course, as recommended by the departmental graduate committee at admission time.

Roadmap of MS-EE

Semester 1

Sr. No.	Pre requisite Course Code	Course Code	Course Title	Credit Hours
1		ESC 701	Research Methodology (Core I - University Requirement)	3.0
2			Core II	3
3			Core III	3

Semester 2

Sr. No.	Pre requisite Course Code	Course Code	Course Title	Credit Hours
1			Core - IV	3
2			Core - V	3
3			Elective I	3

Semester 3

Sr. No.	Pre requisite Course Code	Course Code	Course Title	Credit Hours
1			Elective II	3
2		THS 799 / Elective Code	MS Thesis / Elective Course	3

Semester 4

Sr. No.	Pre requisite Course Code	Course Code	Course Title	Credit Hours
1			Elective III	3
2		THS 799 / Elective Code	MS Thesis / Elective Course	3

MS EE (Communication Systems and IoT Networks)

Core Courses

Sr. No.	Pre requisite Course Code	Course Code	Course Title	Credit Hours
1		ESC 701	Research Methodology	3
2		EEN 710	Stochastic Process for Engineers	3
3		EEN 712	Advanced Digital Communication Systems	3
4		EET 755	Wireless Communication Techniques	3
5		EET 724	Optimization Techniques in Electrical Engineering	3

List of Electives Courses

Pre requisite Course Code	Course Code	Course Title	Credit Hours
	EET 850	Wireless Sensor Networks	3
	EET 762	Communication Network Architecture and Protocols	3
	EET 766	RF System Engineering and Design	3
	EET 750	Antennas Theory, Design and Applications	3
	EET 768	Cognitive & software Defined Radio	3
	EEN 740	Embedded System Design for Telecommunications	3
	EET 756	Telecommunication Switching Systems	3
	EET 702	Advanced Network Security	3
	CEN 745	Advanced Digital Image Processing	3
	ESC 716	Advanced Topics in Wireless & Networking	3
	EEN 725	Advanced Digital Signal Processing	3

	EET 770	Advanced Information Theory and Coding	3
	EET 731	IoT for Industry 4.0	3
	EET 730	AI for Internet of Things	3
	EET 728	Security for Internet of Things	3
	EET 725	Advanced Routing & Switching	3
	EET 712	Advanced Power Electronics	3
	CEN 752	Advanced VLSI System Desing	3
	CSC 711	Advanced Artificial Intelligence	3
	EET 757	Mobile Computing	3
	EET 769	Mobile/Vehicular Adhoc Network	
	EET 771	IoE & Digital Ecosystems	3
	EET 772	Data Networks & Security Technologies	3

MS EE (Automation and Control)

Core Courses

Sr. No.	Pre requisite Course Code	Course Code	Course Title	Credit Hours
1		ESC 701	Research Methodology	3
2		EEN 710	Stochastic Process for Engineers	3
3		EEA 712	AI Enhanced Control Systems	3
4		EEN 726	Modern Control Theory	3
5		EET 724	Optimization Techniques in Electrical Engineering	3

List of Electives Courses

Sr.No.	Pre requisite Course Code	Course Code	Course Title	Credit Hours
1		EEA 713	Robust Multivariable Control System	3
2		EEA 703	Dynamic Modeling system	3
3		EEA 749	Fuzzy Logic and Intelligent Control Systems	3
4		EEA 750	Nonlinear System Analysis & Control	3
5		EEA 704	Adaptive Control Systems	3
6		CEN 758	Robotics and Intelligent Sensors	3
7		CEN 722	Advanced Interfacing Techniques	3
8		EEA 751	Advanced Mechatronics	3

9		EEA 752	Advanced Industrial Automation Technologies	3
10		EEA 715	Industrial Project Management	3
11		EEA 716	Control Instrumentation and Robotics	3
12		EEA 717	Process Control Commissioning and Production Management	3
13		EEA 753	Robotics Essentials	3
14		EEA 754	Robot Motion Planning	3
15		CEN 758	Robotics & Intelligent Sensors	3
16		CEN 745	Advanced Digital Image Processing	3
17		EEN 725	Advanced Digital Signal Processing	3
18		EEP 712	Advanced Power Electronics	3
19		CSC 711	Advanced Artificial Intelligence	3
20		CEN 752	Advanced VLSI System Design	3
21		EEA 702	Advance Topics in Control Systems	3

MS EE (Power Systems)

Core Courses

Sr.No.	Pre requisite Course Code	Course Code	Course Title	Credit Hours
1		ESC 701	Research Methodology	3
2		EEN 710	Stochastic Process for Engineers	3
3		EEP 710	Advanced Power Transmission & Distribution	3
4		EEP 711	Advanced Power Generation and Plant Operation	3
5		EET 724	Optimization Techniques in Electrical Engineering	3

List of Electives Courses

Sr. No.	Pre requisite Course Code	Course Code	Course Title	Credit Hours
1		EEP 716	Advanced Power System Analysis	3
2		EEP 717	Advanced Power System Planning	3
3		EEP 718	Advanced Power System Protection	3

4		EEP 713	Advanced High Voltage Engineering Design	3
5		EEP 754	Smart Grid System Operation	3
6		EEP 715	Advanced Hydel Power Generation	3
7		EEP 722	Advanced Power System Reliability	3
8		EEP 719	Advanced Topics in Power Systems Engineering	3
9		EEP 724	Advanced Renewable Energy	3
10		EEP 757	Non-Conventional Energy Systems	3
11		EEP 725	Advanced Solar Power Generation	3
12		EEP 726	Advanced Wind Power Generation	3
13		EEP 727	Advanced Hybrid Power Generation	3
14		EEP 723	Thermal and Nuclear Power Generation	3
15		EEP 720	Computer Methods in Power Systems	3
16		EEP 721	Insulation Coordination in Power Systems	3
17		EEP 712	Advanced Power Electronics	3
18		EEP 728	Special Topics in Power System Operation and Control	3
19		EEP 780	EMS & SCADA	3
20		EEA 713	Robust Multivariable Control System	3
21		EEA 749	Fuzzy Logic and Intelligent Control Systems	3
22		EEA 750	Nonlinear System Analysis & Control	3
23		EEP 729	Integration of Distributed Generation in Power Systems`	3
24		EEP 775	HVDC and Flexible AC Transmission	3
26		EEP 771	Low Power System Design	3
27		CEN 752	Advanced VLSI System Design	3
28		CSC 711	Advanced Artificial Intelligence	3
29		EEP 773	Power System Stability and Dynamics	3

PhD Electrical Engineering

Program Title: PhD Electrical Engineering

Duration: 3 to 8 Years

Eligibility Criteria: 18 Years Education in the relevant discipline with a minimum CGPA of 3.00/4.00 (Semester System) or 60% marks (Annual System). NTS-GAT (General) or GRE (General) Test passed with minimum 60% marks or BU Admission Test (60% passing marks). Initial Research Proposal/Statement of Purpose is required at the time of PhD admission.

Program Educational Objectives

The objectives of PhD (Electrical Engineering) program are

1. To equip scholars with necessary knowledge relevant tools and techniques to make significant contribution in the field of study by conducting quality research independently or in collaboration.
2. To prepare scholars to effectively disseminate result in the form of written and oral presentation
3. To produce skilled professionals who can take up the challenges associated with the advancement of science and technology in industry or in academia.

Program Learning Outcomes

PhD scholars who successfully complete their PhD in Electrical Engineering will be able to:

PLO 1: Perform advance research that is grounded in theory, practice and further extends the existing research in the field

PLO 2: Produce quality research that have a positive impact toward the welfare and betterment of society

PLO 3: Communicate effectively both in oral and written formats to a diverse audience.

PLO 4: Collaborate with the peers in the domain of Electrical Engineering to integrate diverse perspectives

Program structure:

The PhD program consists of 18 credit hours of course work and 36 credit hours of research work. Coursework should be completed in the first two semesters. After successful completion of coursework, a PhD scholar is required to appear in the comprehensive examination. After passing comprehensive examination PhD scholar can register in the research phase by registering THS 900 PhD Thesis course. The first milestone in research phase is to prepare and submit a research Proposal under the guidance of a supervisor. The scholar appears before a panel of examiners to defend the research proposal. After successful defense, the scholar needs to carry out his/her research and complete total 36 credits of research. The scholar will present the research finding in the form of a written thesis, which shall be evaluated as per HEC and BU rules. For further details about rules governing PhD programs refer to PhD Rules Handbook.

Semester wise breakdown of the program is as follows.

Semester-wise Road map

Semester 1

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1	None	ESC 801	Research Methods in PhD Studies	3
2			Elective I	3
3			Elective II	3

Semester 2

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1			Elective III	3
2			Elective IV	3
3			Elective V	3

Semester 3

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

Semester 4

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

Semester 5

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

Semester 6

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis	9

List of Electives Courses

Course Code	Course Title	Credit Hours
EEN 827	Modern Control Theory	3
EEN 828	Advanced Nonlinear Control Systems	3
EEP 801	Power Management in Wired and Wireless communications Systems	3
EEP 802	Advanced Low Power System Design	3
EEP 803	Advanced Power System Deregulation	3
EEN 829	Design and Applications of Real Time DSP Systems	3
EET 830	Emerging Trend in Cognitive Cooperative Networks	3
EET 831	Modern Digital Communications Systems	3
EEN 830	Dynamic Systems Modeling & Simulation	3
EET 832	Advance topics in Network Security	3
EET 833	Smart Antennas	3
EET 827	Advanced Wireless Communication Systems	3
EEP 804	Advanced Power System Stability and Dynamics	3
EET 834	Emerging Trend in Optical Fiber Networks	3
EEP 805	Artificial Intelligence Techniques in Power Systems Design	3
EET 835	Advance Topics in 5G and Beyond Communications	3
EEN 831	Statistical Signal Processing	3
CEN 807	Distributed Systems Architecture and Design	3
CEN 808	Advanced Techniques in System Modeling and Simulation	3
CEN 821	Microprocessor System Optimization and customization	3
CEN 840	Advanced Embedded System Design	3
CEN 842	Digital Systems Integration and Design	3
CEN 845	Image Analysis and Pattern Recognition	3
CEN 852	Modern Approaches in VLSI System Design	3
CEN 853	Real-Time Systems Engineering & Design	3
CEN 855	Advanced Parallel Processing Computer Systems	3
DSC 807	Advanced Deep Learning	3
CSC 819	Research Trends in Machine Learning	3
CSC 851	Advanced Pattern Recognition	3

CSC 864	Advanced Computer Vision	3
CSC 881	Advanced Cloud Computing	3
SEN 862	Emerging Trends in Big Data Analytics	3
SEN 810	Advanced Neural Networks & Fuzzy Logic	3
EET 829	Optimization Techniques	3
EEN 832	Fuzzy Logic and Neural Network Based Intelligent control systems	3
EEN 833	Advanced Computer vision for Robotics	3
EEN 834	Human-Robot Interaction	3
EEN 835	Medical Devices & Robotics	3
EET 836	AI for Future Communication Systems	3
EET 837	Advanced Data Communication Systems	3
EEP 806	Modern Trends in Power system Analysis	3
EEP 807	Modern Power System Protection	3
CEN 820	Advanced Computer Architecture	3
CEN 841	ASIC Design Methodology	3
CEN 854	MOS VLSI Circuit Design	3
DSC 800	Advanced Data Analytics	3
CSC 800	Advanced AI Networking	3
SEN 809	Internet of Things: Design and Applications	3
SEN 808	Computer and Cybersecurity	3

Bachelor of Software Engineering

Program Title: Bachelor of Electrical Engineering (BEE)

Duration: 4 years

Eligibility Criteria: Passed intermediate examination or it's equivalent with a minimum of 60% marks (excluding NCC) in Pre-Engineering Group, or with Mathematics, Physics & Computer Studies.

Program Educational Objectives (PEOs)

PEO 1: To provide viable solutions to complex engineering problems based on systematic theoretical and technical approaches in the field of electrical engineering.

PEO 2: To manage and develop sustainable electrical systems to meet desired objectives and explore new entrepreneurial possibilities in a multidisciplinary environment.

PEO 3: To pursue academic and professional growth by taking up higher studies, discovering new technologies and developing proficiency in the usage of latest tools.

PEO 4: To work in a multicultural environment and be responsive to ethical, moral, and societal issues showing leadership in their domain.

Program Education Objectives (PEOs):

PEO-1: Graduates should demonstrate competence in applying Software Engineering principles & practices in various phases of software/system development life cycle in their respective professional career.

PEO-2: Graduates should demonstrate effective team member or leadership skills with strong managerial skills and a sound sense of social responsibility for the sustainable development of society.

PEO-3: Graduates should demonstrate sustained career development and progression through ethical engineering practices, effective communication skills and continuous learning.

Program Mission:

The mission of Bachelor of Software Engineering program is to prepare technically strong Software Engineers who can contribute effectively towards the nation, society and the world at large through effective problem-solving skills, application of engineering knowledge, leadership and healthy lifelong learning attitude.

Program Learning Outcomes (PLOs):

1. **Engineering Knowledge:** An ability to apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

2. **Problem Analysis:** An ability to identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
3. **Design/Development of Solutions:** An ability to design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
4. **Investigation:** An ability to investigate complex engineering problems in a methodical way including literature survey, design and conduct of experiments, analysis and interpretation of experimental data, and synthesis of information to derive valid conclusions.
5. **Modern Tool Usage:** An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations.
6. **The Engineer and Society:** An ability to apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solution to complex engineering problems.
7. **Environment and Sustainability:** An ability to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.
9. **Individual and Team Work:** An ability to work effectively, as an individual or in a team, on multifaceted and /or multidisciplinary settings.
11. **Communication:** An ability to communicate effectively, orally as well as in writing, on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

12. **Project Management:** An ability to demonstrate management skills and apply engineering principles to one's own work, as a member and/or leader in a team, to manage projects in a multidisciplinary environment.
13. **Lifelong Learning:** An ability to recognize importance of, and pursue lifelong learning in the broader context of innovation and technological developments.

Semester 1

S. No.	Pre- requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs Alignment
1	None	CSC 110	Computing Fundamentals	2	General Education	9
2	None	CSL 110	Computing Fundamentals Lab	1	General Education	9
3	None	CSC 113	Computer Programming	3	Major/Disciplinary (Mandatory)	9
4	None	CSL 113	Computer Programming Lab	1	Major/Disciplinary (Mandatory)	9
5	None	ENG 101	Functional English	3	General Education	4
6	None	GSC 110	Applied Calculus & Analytical Geometry	3	General Education	9
7	None	GSC 114	Applied Physics	2	General Education	9
8	None	GSL 113	Applied Physics Lab	1	General Education	9
9	None	ENV 101	Occupational Health and Safety	1	Interdisciplinary (Mandatory)	3
10	None	ISL 107	Tajweed*	0	Non-Credit course Tajweed, Quran and Hadith (Compulsory*)	4, 10, 16
Total Credit Hours				17		

Semester 2

S. No.	Pre- requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs Alignment
1	None	CSC 115	Discrete Structures	3	Major/Disciplinary (Mandatory)	9
2	CSC 113	CSC 210	Object Oriented Programming	3	Major/Disciplinary (Mandatory)	9
3	CSC 113	CSL 210	Object Oriented Programming Lab	1	Major/Disciplinary (Mandatory)	9
4	None	SEN 120	Introduction to Software Engineering	3	Major/Disciplinary (Mandatory)	9
5	ENG 101	ENG 134	Effective Communication Skills	2	General Education	4
6	None	ISL 101	Islamic Studies*/Ethics**	2	General Education	5, 10
7	None	GSC 121	Linear Algebra	3	General Education	9
8	None	ISL 203	Fehmul Quran– I***	1	Credited course (Compulsory*)	4, 10, 16
Total Credit Hours				18		

Semester 3

S. No.	Pre- requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs Alignment
1	CSC 210	CSC 221	Data Structures & Algorithms	3	Major/Disciplinary (Mandatory)	9
2	CSC 210	CSL 221	Data Structures & Algorithms Lab	1	Major/Disciplinary (Mandatory)	9
3	SEN 120	SEN 211	Software Requirements Engineering	3	Major/Disciplinary (Mandatory)	9
4	None	GSC 122	Probability & Statistics	3	General Education	9
5	None	HSS 219	Civics and Community Engagement	2	General Education	4
6	None	CEN 220	Computer Architecture & Logic Design	3	Major/Disciplinary (Mandatory)	9
7	None	CEL 220	Computer Architecture & Logic Design Lab	1	Major/Disciplinary (Mandatory)	9
8	None	PAK 105	Pakistan Studies	2	Culture / Study of religion	5, 10, 11
Total Credit Hours				18		

Semester 4

S. No.	Pre- requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs Alignment
1	CEN 220	CSC 320	Operating Systems	3	Major/Disciplinary (Mandatory)	9
2	CEN 220	CSL 320	Operating Systems Lab	1	Major/Disciplinary (Mandatory)	9
3	CSC 113	CSC 220	Database Management Systems	3	Major/Disciplinary (Mandatory)	9
4	CSC 113	CSL 220	Database Management Systems Lab	1	Major/Disciplinary (Mandatory)	9
5	CSC 221	CSC 321	Design & Analysis of Algorithms	3	Major/Disciplinary (Mandatory)	9
6	SEN 211	SEN 221	Software Design & Architecture	2	Major/Disciplinary (Mandatory)	9
7	SEN 211	SEL 221	Software Design & Architecture Lab	1	Major/Disciplinary (Mandatory)	9
8	None	HSS 423	Entrepreneurship	2	General Education	4
9	None	ISL 204	Fehmul Quran– II*	1	Credited course (Compulsory*)	4, 10, 16
Total Credit Hours				17		

Semester 5

S No	Pre- requisite	Course Code	Course Title	Credit Hours
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S. No.	Pre- requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs Alignment
1	None	CEN 223	Computer Communication & Networks	3	Major/Disciplinary (Mandatory)	9
2	None	CEL 223	Computer Communication & Networks Lab	1	Major/Disciplinary (Mandatory)	9
3	GSC 110	SEN 323	Formal Methods in Software Engineering	3	Major/Disciplinary (Mandatory)	9
4	SEN 221	SEN 311	Software Construction	2	Major/Disciplinary (Mandatory)	9
5	SEN 221	SEL 311	Software Construction Lab	1	Major/Disciplinary (Mandatory)	9
6	-	-	Engineering Elective-I*	3	Electives toward specialization	9
7	-	-	MDEE-I*	3	Interdisciplinary (Mandatory)	9
8	-	PAK 109	Ideology and Constitution of Pakistan	2	General Education	5,10,11
Total Credit Hours				18		

Semester 6

S. No.	Pre- requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs Alignment
1	SEN 120	SEN 321	Software Quality Engineering	3	Major/Disciplinary (Mandatory)	9
2	None	SEN 320	Human Computer Interaction	3	Major/Disciplinary (Mandatory)	9
3	None	ENG 320	Technical Writing & Presentation Skills	3	General Education	4
4	-	-	Engineering Elective-II*	3	Electives toward specialization	9
5	-	-	Engineering Elective-III*	3	Electives toward specialization	9
6	None	SEN 401	Cloud Computing	2	Major/Disciplinary (Mandatory)	9
7	None	SEL 401	Cloud Computing Lab	1	Major/Disciplinary (Mandatory)	9
Total Credit Hours				18		

Semester 7

S. No.	Pre- requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs Alignment
1	None	FYP 400	Final Year Project I	3	Capstone project (Mandatory)	1, 2, 3, 4, 5, 7, 8, 9, 10, 12, 13, 15
2	SEN 120	SEN 410	Software Project Management	3	Major/Disciplinary (Mandatory)	9
3	None	CSC 407	Information Security	3	Major/Disciplinary (Mandatory)	9
4	GSC 110	GSC 321	Numerical Analysis	2	Major/Disciplinary (Mandatory)	9
5	GSC 110	GSL 321	Numerical Analysis Lab	1	Major/Disciplinary (Mandatory)	9

6	-	-	Engineering Elective-IV**	3	Electives toward specialization	9
7	-	-	Management Science Elective	3	General Education	4
8	ISL 112	ISL 113	Seerah-I*	0	Non-Credit course Tajweed, Quran and Hadith (Compulsory*)	4, 10, 16
Total Credit Hours				18		

Semester 8

S. No.	Pre- requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs Alignment
1	None	FYP 400	Final Year Project II	3	Capstone project (Mandatory)	1, 2, 3, 4, 5, 7, 8, 9, 10, 12, 13, 15
2	-	-	Engineering Elective-V	3	Electives toward specialization	9
3	-	-	Engineering Elective-VI**	3	Electives toward specialization	9
4	-	-	MDEE-II	3	Interdisciplinary (Mandatory)	9
5	ISL 113	ISL 114	Seerah-II*	0	Non-Credit course Tajweed, Quran and Hadith (Compulsory*)	4, 10, 16
6			Social Science Elective	2	Social Science	4
Total Credit Hours				14		

List of Elective Courses

S. No.	Pre- requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs Alignment
1	GSC 110	GSC 210	Differential Equations	3+0	Interdisciplinary (Mandatory)	9
2	GSC 110	GSC 220	Complex Variables and Transforms	3+0	Interdisciplinary (Mandatory)	9
3	GSC 122	GSC 445	Operations Research	3+0	Interdisciplinary (Mandatory)	9
4	GSC 122	CEN 450	Simulation and Modeling	2+1	Interdisciplinary (Mandatory)	9
5	GSC 114	GSC 446	Physics-II (Mechanics)	3+0	Interdisciplinary (Mandatory)	9
6	GSC 122	GSC 440	Stochastic Processes	3+0	Interdisciplinary (Mandatory)	9
7	CSC 320	SEN 439	System Programming	2+1	Interdisciplinary (Mandatory)	9
8	CSC 320	CEN 453	Real Time Systems	3+0	Interdisciplinary (Mandatory)	9
9	CSC 315	CSC 323	Compiler Construction	2+1	Interdisciplinary (Mandatory)	9
10	GSC 110	CSC 453	Information Theory	3+0	Interdisciplinary (Mandatory)	9
11	CSC 113	SEN 460	IoT Application Development	2+1	Interdisciplinary (Mandatory)	9
12	None	CEN 122	Digital Design	2+1	Interdisciplinary (Mandatory)	9
13	None	CSC 448	Introduction to Bioinformatics	3+0	Interdisciplinary (Mandatory)	9
14	None	CEN 459	Robotics	2+1	Interdisciplinary (Mandatory)	9

15	None	CSC 315	Theory of Automata	3+0	Interdisciplinary (Mandatory)	9
16	None	CEN 439	Embedded System Design	2+1	Interdisciplinary (Mandatory)	9
17	None	SEN 429	Fault Tolerant Systems	3+0	Interdisciplinary (Mandatory)	9
18	None	SEN 449	Business Process Automation	3+0	Interdisciplinary (Mandatory)	9
19	None	HSS 422	Engineering Ethics	3+0	Interdisciplinary (Mandatory)	3,10
20	CSC 113	CSC 313	Visual Programming	2+1	Electives towards Specialization	9
21	CSC 113	CSC 445	Principles of Programming Languages	3+0	Electives towards Specialization	9
22	CSC 210	SEN 328	Game Application Development	2+1	Electives towards Specialization	9
23	CSC-113	SEN 441	Mathematical Tools for Software Engineering	3+0	Electives towards Specialization	9
24	GSC 122	CSC 441	Natural Language Processing	3+0	Electives towards Specialization	9
25	CSC 210	CSC 456	Distributed Computing	2+1	Electives towards Specialization	9
26	CSC 220	CSC 460	Data Mining	2+1	Electives towards Specialization	9
27	CSC 220	CSC 454	Data Warehousing	3+0	Electives towards Specialization	9
28	SEN 120	CSC 458	Management Information Systems	3+0	Electives towards Specialization	9
29	CSC 220	SEN 326	Advanced Database Management Systems	2+1	Electives towards Specialization	9
30	CSC 220	SEN 327	Distributed Database Systems	3+0	Electives towards Specialization	9
31	GSC 121	CEN 445	Digital Image Processing	2+1	Electives towards Specialization	9
32	CEN 445	CSC 464	Computer Vision	3+0	Electives towards Specialization	9
33	SEN 120	SEN 335	Object Oriented Software Engineering	2+1	Electives towards Specialization	9
34	SEN 311	SEN 411	Software Re- Engineering	3+0	Electives towards Specialization	9
35	CSC 113	SEN 310	Web Engineering	2+1	Electives towards Specialization	9
36	CSC 113	SEN 461	Secure Programming	2+1	Electives towards Specialization	9
37	SEN 120	SEN 429	DevOps	3+0	Electives towards Specialization	9
38	CSC 113	AIC 301	Machine Learning	2+1	Electives towards Specialization	9
39	None	SEN 448	Software Applications for Mobile Devices	2+1	Electives towards Specialization	9
40	None	SEN 324	Software Metrics & Estimation	3+0	Electives towards Specialization	9
41	None	SEN 450	Design Pattern	3+0	Electives towards Specialization	9
42	None	SEN 452	Agile Development	3+0	Electives towards Specialization	9
43	None	CSC 411	Artificial Intelligence	2+1	Electives towards Specialization	9
44	None	SEN 443	Introduction to Soft Computing	2+1	Electives towards Specialization	9
45	None	SEN 331	Scientific Computing	3+0	Electives towards Specialization	9
46	None	SEN 330	Agent Based Computing	3+0	Electives towards Specialization	9
47	None	SEN 459	Mobile and Pervasive Computing	3+0	Electives towards Specialization	9
48	None	CEN 451	Data Encryption & Security	3+0	Electives towards Specialization	9

45	None	SEN 331	Scientific Computing	3+0	Electives towards Specialization	9
46	None	SEN 330	Agent Based Computing	3+0	Electives towards Specialization	9
47	None	SEN 459	Mobile and Pervasive Computing	3+0	Electives towards Specialization	9
48	None	CEN 451	Data Encryption & Security	3+0	Electives towards Specialization	9
49	None	CSC 495	Introduction to Data Science	2+1	Electives towards Specialization	9
50	None	SEN 332	Big Data Analytics	3+0	Electives towards Specialization	9
51	None	SEN 455	Knowledge Based Management Systems	3+0	Electives towards Specialization	3
52	None	SEN 453	Information System Audit	3+0	Electives towards Specialization	9
53	None	CSC 444	Computer Graphics	2+1	Electives towards Specialization	9
54	None	SEN 329	Digital Animation	3+0	Electives towards Specialization	9
55	None	SEN 493	Multimedia Systems	3+0	Electives towards Specialization	9
56	None	SEN 424	Semantic Web	2+1	Electives towards Specialization	9
57	None	SEN 456	Usability Engineering	3+0	Electives towards Specialization	9
58	None	HSS 217	Introduction to Sociology	2+0	Humanities & Social Sciences Elective	4
59	None	HSS 119	Introduction to International Relations	2+0	Humanities & Social Sciences Elective	4
60	None	HSS 121	Introduction to Media Studies	2+0	Humanities & Social Sciences Elective	4
61	None	HSS 218	Introduction to Anthropology	2+0	Humanities & Social Sciences Elective	4
62	None	HSS 457	Organizational Behavior	2+0	Humanities & Social Sciences Elective	4
63	None	HSS 107	Introduction to Psychology	2+0	Humanities & Social Sciences Elective	3
64	None	HSS 413	Sociology for Engineers	2+0	Humanities & Social Sciences Elective	4, 9, 11, 16,
65	None	SEN 442	Software Engineering Economics	2+0	Humanities & Social Sciences Elective	4, 9, 12
66	None	ENG 121	English Literature	2+0	Humanities & Social Sciences Elective	4
67	None	HSS 462	Foreign Language	2+0	Humanities & Social Sciences Elective	4
68	None	HSS 109	Arabic	2+0	Humanities & Social Sciences Elective	4
69	None	HSS 163	Chinese	2+0	Humanities & Social Sciences Elective	4
70	None	HSS 160	French	2+0	Humanities & Social Sciences Elective	4
71	None	HSS 164	German	2+0	Humanities & Social Sciences Elective	4
72	None	HSS 161	Russian	2+0	Humanities & Social Sciences Elective	4

73	None	HSS 162	Spanish	2+0	Humanities & Social Sciences Elective	4
74	None	HSS 214	Turkish	2+0	Humanities & Social Sciences Elective	4
75	None	HSS 463	Accounting & Finance	2+0	Humanities & Social Sciences Elective	4
76	None	MGT 111	Principles of Management	3+0	Management Science Elective	4, 11, 12
77	None	HSS 453	Human Resource Management	3+0	Management Science Elective	4, 11, 12
78	None	MGT 423	Engineering Management	3+0	Management Science Elective	4, 9, 12
79	None	MTM 101	Introduction to Maritime Industry	3+0	Management Science Elective	14
80	None	MTM 501	Fundamentals of Maritime Sector	3+0	Management Science Elective	14

MS Software Engineering

Program Title: MS Software Engineering

Duration: 2 Years

Eligibility Criteria: HEC recognized 4 years Bachelor's Degree or equivalent in a relevant computing discipline (Software Engineering, Computer Science, IT, Computer Engineering, Information Systems & Informatics) with a minimum CGPA of 2.0/4.0 or 50% marks where CGPA is not given.

Semester-wise Road map

Semester 1

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1			Core I	3
2			Core II	3
3			Core III	3

Semester 2

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1			Core IV	3
2			Elective I	3
3			Elective II	3

Semester 3

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1			Elective III	3
2			Elective IV	3
		THS 799	Thesis I / (Elective V)	3

Semester 4

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 799	Thesis II / (Elective VI)	3
2	Total Credit Hours in Semester-4			3

MS SE (Master of Science in Software Engineering)

Core Courses

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1	-	SEN 721	Advanced Software System Architecture	3
2	-	SEN 706	Advanced Software Testing and Quality Assurance	3
3	-	SEN 701	Advanced Requirement Engineering	3
4	-	ESC 701	Research Methodology	3

List of Electives Courses

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1	-	SEN 724	Advanced Automated Software Engineering	3
2	-	SEN 746	Advanced Software Metrics	3
3	-	SEN 747	Advanced Software Project Management	3
4	-	SEN 702	Advanced Agile Software Development Methods	3
5	-			
6	-	SEN 720	Advanced Human- Computer Interaction	3
7	-	SEN 723	Formal Methods and Specifications	3
8	-	SEN 754	Advanced Web Computing System and Application	3
9	-	SEN 755	Service-Oriented Computing	3
10	-	SEN 756	Advanced Usability Engineering	3
11	-	SEN 758	Component-based Software Engineering	3
12	-	SEN 759	Software Re-Engineering	3
13	-	SEN 760	Complex Adaptive Systems	3
14	-	SEN 762	Advanced Big Data Analytics	3
15	-	SEN 763	Advanced Software Engineering	3
16	-	SEN 764	Ontology Engineering	3
17	-	SEN 774	IoT's Architecture, Protocols & Applications	3
18	-	SEN 729	Advanced DevOps	3
19	-	SEN 705	Advanced Interaction Design	3

Note: (Minimum 2 of the above courses)

GENERAL ELECTIVE COURSES

20	-	CSC 761	Advanced Neural Networks	3
21	-	CSC 751	Pattern Recognition	3
22	-	CSC 753	Distributed Databases	3
23	-	CSC 759	Agent-based Modeling	3
24	-	CSC 760	Advanced Data Warehousing	3
25	-	CSC 764	Computer Vision	3
26	-	CSC 765	Bio-Medical Image Analysis	3
27	-	CSC 781	Cloud Computing	3
28	-	ISC 748	Blockchain Essentials	3
29	-	DSC 707	Deep Learning	3
30	-	CEN 707	Advanced Distributed Systems	3
31	-	CEN 720	Advanced Computer Architecture	3
32	-	CEN 745	Advanced Digital Image Processing	3
33	-	GSC 700	Advanced Engineering Mathematics	3
34	-	EET 702	Advanced Network Security	3
35	-	DSC 703	Advanced Data Visualization	3
36	-	ISC 732	Advance Computer Security	3
37	-	ISC 747	Advanced Cryptanalysis	3

PhD Software Engineering

Program Title: PhD Software Engineering

Duration: 3 to 8 Years

Eligibility Criteria: 18 Years of education (MS/MPhil/equivalent) in the relevant discipline from an HEC recognized university with a minimum CGPA of 3.00/4.00 (Semester System) or 60% marks (Annual System).

NTS-GAT (General) or GRE (General) Test passed with minimum 60% score in the relevant computing domain (Computer Science/Software Engineering/IT) or BU Admission Test (60% passing marks).

Initial Research Proposal/Statement of Purpose is required at the time of PhD admission.

Road map of PhD SE

Semester 1

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1	None	ESC 801	Research Methods in PhD Studies	3
2			Elective I	3
3			Elective II	3

Semester 2

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1			Elective III	3
2			Elective IV	3
3			Elective V	3

Semester 3

Sr. No	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1			Comprehensive exam	0

2		THS 900	PhD Thesis	9
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Semester 4

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		THS 900	PhD Thesis 9	9

Semester 5

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
		THS 900	PhD Thesis 9	9

Semester 6

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
		THS 900	PhD Thesis 9	9

List of Electives Courses

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		SEN 820	Emerging Trends in Human Computer Interaction	3
2		SEN 856	Advance Topics in Usability Engineering	3
3		SEN 823	Formal Models & Methods in Software Engineering	3
4		SEN 863	Advanced Software Engineering Methods & Practices	3
5		SEN 859	Advanced Software Re-Engineering	3
6		SEN 858	Emerging Trends in Component -Based	3

			Software Engineering	
7		SEN 812	Agile Methods	3
8		SEN 815	Verification & Validation	3
9		SEN 813	Advanced Software Requirement Engineering	3
10		SEN 857	Advanced Empirical Software Engineering	3
11		SEN 801	Model Driven Software Engineering	3
12		SEN 802	Special Topics in Software Engineering	3
13		SEN 854	Web Computing Research Strategies	3
14		SEN 855	Advanced topics in Service-Oriented Computing	3
15		SEN 816	Middleware For Networked and Distributed Systems	3
16		CSC 881	Advanced Cloud Computing	3
17		CEN 807	Distributed Systems Architecture and Design	3
18		SEN 803	Advanced e-Learning Systems	3
19		SEN 861	Semantic Web Modeling and Applications	3
20		SEN 864	Knowledge Representation and Reasoning	3
21		SEN 860	Emerging Trends in Complex Adaptive System	3
22		CEN 808	Advanced Techniques in System Modeling and Simulation	3
23		DSC 802	Advanced Data Visualization	3

24		SEN 862	Emerging Trends in Big Data Analytics	3
25		DSC 807	Advanced Deep Learning	3
26		CSC 841	Advanced Computational Linguistics	3
27		CSC 851	Advanced Pattern Recognition	3
28		CSC 819	Research Trends in Machine Learning	3
29		DSC 802	Advanced Data Visualization	3
30		DSC 800	Advanced Data Analytics	3

31		CEN 845	Image Analysis and Pattern Recognition	3
32		SEN 853	Advanced Power-Aware Computing	3
33		SEN 814	Ubiquitous Computing and Interaction	3
34		ISC 821	Advance Topics in Cryptography	3
35		CSC 820	Advanced Topics in Operating Systems	3
36		CEN 820	High Performance Computer Architecture	3
37		EET 837	Advanced Data Communication Systems	3
38		EET 832	Advance topics in Network Security	3
39		CEN 842	Digital Systems Integration and Design	3
40		EEN 831	Statistical Signal Processing	3
41		SEN 818	Secure Software Systems	3
42		SEN 808	Computer and Cybersecurity	3
43		SEN 809	Internet of Things: Design and Applications	3

BS in Maritime Business & Management

Program Title : BS in Maritime Business & Management
Duration : 4 Years Total
Eligibility Criteria: Intermediate or its equivalent with a minimum of 45% marks in any discipline.

Semester 1

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		ENG 101	Functional English	3
2		MAT 105	Mathematics	3
3		ITC 101	IT Skill	2+1
4		MTM 101	Introduction to Maritime Industry	3
5		PHY 101	Physics	3
6		MGT 211	Self-Management	3
7		ISL 107	Tajweed	0

Semester 2

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		MGT 111	Principles of Management	3
2	ENG 101	ENG 214	Business Communication Skills	3
3		GEO 115	Introduction to Geophysics	3
4		ISL 100	Islamic Studies/Ethics	3
5		MTM 120	Introduction to Meteorology & Oceanography	3
6		HSS 202	Introduction to Sociology	3
7		ISL 203	*Fehm e Quran I	1

***For non-Muslim:** Any University approved 02 (or more) credit hours of Interdisciplinary Course

Semester 3

Sr. No.	Pre-requisite Courses	Course Code	Course Title	Credit Hours
1		MTM 230	Introduction to Maritime Law and International Maritime Convention	3
2		ENG 213	Oral Communication & Presentation Skills	3
3		PAK 101	Pakistan Studies	3
4		FIN 205	Fundamentals of Accounting and Finance	3
5		MGT 221	Management and Leadership	3

6		MTM202	Economics of Sea Transport & International Trade	3
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Semester 4

Sr. No.	Pre-requisite Courses	Course Code	Course Title	Credit Hours
1		MTM 222	Introduction to Coastal Zone Management	3
2		PAK 109	Ideology & Constitution of Pakistan	2
3		MTM 403	Maritime Innovation & Entrepreneurship	3
4		MTM 224	Marine Pollution & Control	3
5		MAT 205	Statistics	3
6		HSS 225	Psychological & Emotional Development	3
7		ISL 204	*Fehm e Quran II	1

***For non-Muslim:** Any University approved 02 (or more) credit hours of Interdisciplinary Course

Semester 5

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		ECO 101	Fundamentals of Economics	3
2		MTM 304	Port Operations and Management	3
3		MTM 305	Maritime Logistics	3
4		MKT 110	Principles of Marketing	3
5		HRM353	Human Resource Management	3
6		MTM 303	Law of Carriage of Goods by Sea	3

Semester 6

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1		MTM 306	Shipping Operations and Management	3
2		MTM 322	Fisheries Resources & Management	3
3		MRM 302	Research & Project Writing Methods	3
4			Elective	3
5			Elective	3
6			Internship	3

Semester 7

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
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1		MTM 401	Coastal Eco-Tourism Development and Management	3
2		MTM 402	Hydrographic Data & Services Management/Hydrography & Navigation	3
3		MTM 223	Marine Insurance	3
4			Elective	3
5			Elective	3
6			Elective	3
7		ISL 113	Seerah -I	0

Semester 8

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours
1	MRM 302	PRO 450	Capstone Project /Thesis	3
2		MTM 226	Regulatory Framework of Maritime Organizations	3
3			Elective	3
4			Elective	3
5		ISL 114	Seerah - II	0
	Total Credit Hours			12

Field Experience / Internship

Sr. No.	Prerequisite Courses	Course Code	Course Title	Credit Hours	HEC Category	UNSDGs
1		SDW 498	Field Experience / Internship*	3	Field Experience / Internship	SDG 4

List of Elective Courses

Course Code	Course Title	Category	Credit Hours
MTM 501	Maritime Business: China Pakistan Perspective under CPEC	Elective	3
MTM 521	Maritime Business and HRM	Elective	3
MTM 523	Design Port Management	Elective	3
MTM 505	Contemporary Issues of Maritime Management	Elective	3
MTM 506	Maritime Management in Pakistan: Past, Present and Future	Elective	3
ECO 521	Marine Technology	Elective	3

ECO 515	Union and Labor Laws	Elective	3
ECO 502	Industrial Economics	Elective	3
MTM 508	Occupational Health and Safety, Risk and Disaster Management	Elective	3
MTM 523	Ship Chartering	Elective	3
HRM 508	Marine Environments and Administration	Elective	3
MTM 524	Custom Documentation	Elective	3
MTM 504	Maritime Management: Concept and Applications	Elective	3
MTM 601	Conservation Ecology	Elective	3
MTM 602	Planktology	Elective	3
MTM 603	Natural Hazards and Management	Elective	3
MTM 604	Coastal and Marine Sedimentology	Elective	3
MTM 605	Sea Level Changes and Coastal Zones	Elective	3
MTM 606	Coastal Tourism Management	Elective	3
MTM 607	Coastal Land Reclamation	Elective	3
MTM 608	Mangrove Coastal Forest Management	Elective	3
MTM 610	Ocean Waves, Tides and Currents	Elective	3
MTM 611	Maritime Safety and Security	Elective	3
MTM 612	Ship Brokerage, Chartering and E-Commerce	Elective	3

List of Social Sciences Courses

Course Code	Course Title	Credit Hours
HSS 109	Arabic	2
HSS 163	Chinese	2
HSS 160	French	2
HSS 164	German	2
HSS 161	Russian	2
HSS 162	Spanish	2
HSS 214	Turkish	2

- 6 weeks Internship after 4th Semester in the Summer semester, preferably.

- Honors, Awards, & scholarships will be calculated on the basis of coursework only, excluding internship credit hours.

The Quran and Seerah program are optional for non-Muslim student.

Campus: Bahria University, Karachi Campus
 Department: Maritime Sciences
 Program Title: BS (Maritime Business and Management)
 Total Duration of Program: 2 Years
 Total Number of semesters: 5 Semesters
 Total Credit Hours: 78 Credit Hours

A: Recommendations of DBOS dated **29 July 2025** (Minutes of DBOS meeting)

B: Recommendations of FBOS dated **8th August 2025** (Minutes of FBOS meeting)

Summary of Credit Hours

Sr. No.	Category as per HEC new UG Policy	Credit Hours/Contact Hours	
		Existing Road Map	Proposed New Road Map
1.	General Education (Mandatory)	9	9
2.	Major/Disciplinary (Mandatory)	48	48
3.	Interdisciplinary (Mandatory)	15	15
4.	Electives toward specialization		
5.	Non-Credit courses (contact hours) – Tajweed, Quran and Hadith (Compulsory)		
6.	Internship (Mandatory)		3
7.	Capstone Project/Thesis (Mandatory)	6	3
8.	Double Major (Optional)		
9.	Minor (Optional)		
Total		78	78

Semester-5				
Sr.No.	Pre-requisite course code	Course Code	Course Title	Credit Hours
1		MTM 101	Introduction to Maritime Industry	3
2		ECO 101	Fundamentals of Economics	3
3		ENG 101	Functional English	3
4		FIN 205	Fundamentals of Accounting and Finance	3
5		MKT 110	Principle of Marketing	3
6		MTM 322	Fisheries Resources & Management	3

Semester-6				
Sr.No.	Pre-requisite course code	Course Code	Course Title	Credit Hours
1		MTN 222	Introduction to Coastal Zone Management	3
2		HRM 353	Human Resource Management	3
3		MAT 205	Statistics	3
4		MTM 305	Maritime Logistics	3
5		MTM 304	Port Operations and Management	3
6		MGT 111	Principles of Management	3
Semester-7				
Sr.No.	Pre-requisite course code	Course Code	Course Title	Credit Hours
1		MTM 401	Coastal Eco-Tourism Development and Management	3
2		MTM 306	Shipping Operations and Management	3
3		MRM 302	Research & Project Writing Methods	3
4		MTM 224	Maritime Pollution & Control	3

5			Elective 1	3
6			Elective 2	3
		ISL 113	Seerah I	0

Semester-8

Sr.No.	Pre-requisite course code	Course Code	Course Title	Credit Hours
1	MRM 302	SDW 499	Project / Thesis	3
2	MTM 322	MTM 403	Maritime Innovation & Entrepreneurship	3
3			Elective 3	3
4			Elective 4	3
		ISL 114	Seerah II	0

Sr.No.	Pre-requisite course code	Course Code	Course Title	Credit Hours
1		MTM 223	Marine Insurance	3
2	MTM 101	GEO 115	Introduction to Geophysics	3
3		MTM230	Introduction to Maritime Law and International Maritime Convention	3
4		SDW 898	Internship	3

LIST OF ELECTIVES

Sr. #	Course Code	Course Title	Credit Hours	SDG
1	MTM 601	Conservation Ecology	3	SDG 13
2	MTM 602	Planktology	3	SDG 14
3	MTM 603	Natural Hazards and Management	3	SDG 11
4	MTM 604	Coastal and Marine Sedimentology	3	SDG 14
5	MTM 605	Sea Level Changes and Coastal Zones	3	SDG 13
6	MTM 606	Coastal Tourism Management	3	SDG 14
7	MTM 607	Coastal Land Reclamation	3	SDG 14
8	MTM 608	Mangrove Coastal Forest Management	3	SDG 14
9	MTM 610	Ocean Waves, Tides and Currents	3	SDG 14
10	MTM 611	Maritime Safety and Security	3	SDG 16
11	MTM 612	Ship Brokerage, Chartering and E-Commerce	3	SDG 8
12	MTM 525	Maritime Business: China Pakistan Perspective under CPEC	3	SDG 8
13	MTM 521	Maritime Business and HRM	3	SDG 10
14	MTM 522	Design Port Management	3	SDG 14
15	MTM 528	Maritime Management: Concept and Applications	3	SDG 17
16	MTM 529	Contemporary Issues of Maritime Management	3	SDG 17
17	MTM 530	Maritime Management in Pakistan: Past, Present and Future	3	SDG 9
18	ECO 521	Marine Technology	3	SDG 10
19	ECO 515	Union and Labor Laws	3	SDG 8
20	ECO 502	Industrial Economics	3	SDG 11
21	MTM 532	Occupational Health and Safety, Risk and Disaster Management	3	SDG 8
22	MTM 523	Ship Chartering	3	SDG 14
23	HRM 508	Marine Environments and Administration	3	SDG 16

List of Social Sciences Courses

Course Code	Course Title	Credit Hours
HSS 109	Arabic	2
HSS 163	Chinese	2

HSS 160	French	2
HSS 164	German	2
HSS 161	Russian	2
HSS 162	Spanish	2
HSS 214	Turkish	2

MS Maritime Ports and Shipping Management

Program Title: MS Maritime Ports and Shipping Management

Duration: 2 years

Total Credit Hours: 16 years of education with Masters/Bachelors or equivalent degree from an HEC recognized university in the relevant discipline/field of study with a minimum CGPA 2./4.0 or 50% marks where CGPA is not given. GAT (Gen)/GRE (General) passed with minimum 50% marks or BU test (50% minimum passing marks). Result are to be submitted at the time of application in case of GAT (General) or GRE (General) or as prescribed by the University.

Roadmap of MS (MP&SM)

Semester 1

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		MTM 704	Maritime Economics & Finance	3
2		MTM 711	Logistics at Ports and Supply Chain Management	3
3		MTM 703	Maritime Law and International Maritime Convention	3
4		ISL 203	*Fehm-e-Quran I	1

Semester 2

Sr. No.	Course Code	Course Title	Credit Hours
1	MTM 705	Coastal Zone Management & Contemporary Issues	3
2	MTM 773	Maritime Technologies and commercial applications	3
3	RMT 705	Research Methodology & Proposal Development	3
4	ISL 204	*Fehm-e-Quran -II	1

***For non-Muslim:** Any University approved 02 (or more) credit hours of Interdisciplinary Course

Semester 3

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
		MTM 774	Multimodal Transport and Logistics	3

			Elective I	3
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Semester 4 (With Thesis or Course Work)

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
	RMT 705	THS799	Thesis	6

Semester 4 (Option II – With Coursework/ in place of a thesis)

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
			Elective	3
			Elective	3

Deficiency Courses for Inter-disciplinary Qualification Holders

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
		MTM 707	Maritime Safety and Security	3
		MTM 708	Ship Brokerage, Chartering and E-Commerce	3

Course Code	Course Title	Credit Hours
MTM 750	Maritime Trade and Industrial Economics	3
MTM 754	Intermodal Transportation	3
MTM 701	Maritime Industry: Pakistan and China in Global Perspective	3
MTM 713	Maritime Logistics and Shipping	3
MTM 758	Ocean Governance Policy and Maritime Law	3
MTM 733	Ports and Logistics Management	3
MTM 776	Ship Security: Threats, Financial and Commercial Implications	3
MTM 771	Globalization and Maritime Trade: Contemporary Issues and Resolving Strategies	3
MTM 714	Dynamics of Maritime Domains	3

List of Social Sciences Courses

Course Code	Course Title	Credit Hours
HSS 109	Arabic	2
HSS 163	Chinese	2
HSS 160	French	2
HSS 164	German	2
HSS 161	Russian	2
HSS 162	Spanish	2
HSS 214	Turkish	2

MS Maritime Trade and Logistics

Program Title: MS Maritime Trade and Logistics

Duration: 2 years

Eligibility Criteria: 16 years of education with Masters/Bachelors or equivalent degree from an HEC recognized university in the relevant discipline/field of study with a minimum CGPA 2./4.0 or 50% marks where CGPA is not given. GAT (Gen)/GRE (General) passed with minimum 50% marks or BU test (50% minimum passing marks). Result are to be submitted at the time of application in case of GAT (General) or GRE (General) or as prescribed by the University.

Semester-wise Road map

Semester 1

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
1		MTM 704	Maritime Economics & Finance	3
2		MTM 711	Logistics at Ports and Supply Chain Management	3
3		MTM 703	Maritime Law and International Maritime Convention	3
4		ISL 203	Fehm-e-Quran - I	1

Semester 2

S.#	Course Code	Course Title	Credit Hours
	MTM 705	Coastal Zone Management & Contemporary Issues	3
	MTM 77	Maritime Technologies and commercial applications	3
	RMT 705	Research Methodology & Proposal Development	3
	ISL 204	*Fehm-e-Quran – II	1

***For non-Muslim:** Any University approved 02 (or more) credit hours of Interdisciplinary Course

Semester 3

S.#	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
		MTM 774	Multimodal Transport and Logistics	3
			Elective I	3

Semester 4 (With Thesis)

S.#	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
	RMT 705	THS 799	Thesis	6

Semester 4 (Option II – With Coursework/ in place of a thesis)

S.#	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
			Elective	3
			Elective	3

Deficiency Courses for Inter-disciplinary Qualification Holders

S.#	Pre-requisite Course Code	Course Code	Course Title	Credit Hours
		MTM 707	Maritime Safety and Security	3
		MTM 708	Ship Brokerage, Chartering and E-Commerce	3

List of Elective Courses

Course Code	Course Title	Credit Hours
MTM 778	Custom clearing and Freight Forwarding	3
MTM 750	Maritime Trade and Industrial Economics	3
MTM 702	Ports and Shipping Management in Contemporary Environments	3
MTM 719	Maritime Trade & Logistics: Emerging Global Realities & issues	3
MTM 714	Dynamics of Maritime Domain	3
MTM 701	Maritime Industry: Pakistan and China in Global Perspective	3

List of Social Sciences Courses

Course Code	Course Title	Credit Hours
HSS 109	Arabic	2
HSS 163	Chinese	2
HSS 160	French	2
HSS 164	German	2
HSS 161	Russian	2
HSS 162	Spanish	2
HSS 214	Turkish	2

MS-Medical Lab Sciences

Program Title: MS-Medical Lab Sciences

Duration: 2 Years

Eligibility Criteria: Minimum 16 years of education with BS in Medical Lab Technology/ Clinical Lab Science/ Biochemistry/ Microbiology/ or MSc or equivalent degree from an HEC recognized university in the relevant discipline/ field of study with a minimum CGPA 2.5/ 4.0 or 50 % marks where CGPA is not given.

Roadmap of MS-Medical Lab Sciences

Semester 1

Sr No.	Course Codes	Course Title	Credit Hours
1	MED 701	Research Methodology	3 (3+0)
2	MLS 702	Clinical Biochemistry	3(2+1)
3	MLS 703	Clinical Hematology	3 (2+1)
4	MED 715	Journal Club -I	No credit hour
5	MLS 704	Teaching/Lab Internship-I	No credit hour

Semester 2

Sr No.	Course Code	Course Title	Credit Hours
1	MLS 705	Clinical Immunology	3 (2+1)
2	MLS 706	Clinical Microbiology	3 (2+1)
3.	XXXXXX	Elective- I	3 (2+1)
4	MED 716	Journal Club-II	No credit hour
5	MLS 707	Teaching/Lab Internship -II	No credit hour

**Semester-I & Semester-II are pre-requisite to proceed to

Semester 3

Sr No.	Course Code	Course Title	Credit Hours
1	XXXXXX	Elective-II	3 (2+1)

2	XXXXXX	Elective-III	3 (2+1)
3	THS 700	Thesis-I MS	3+0
		OR	
	MLS 708	Current trends and issues in	
		medical laboratory sciences	
4	MED 717	Journal Club (Essential)-III	No credit hour
5	MLS 709	Teaching/ Lab Internship -III	No credit hour

Semester 4

Sr No.	Course Code	Course Title	Credit Hours
1	THS 701 MLS 710	Thesis-II (MS with thesis)OR Professional communication & manuscript writing in the Medical laboratory sciences	3+0

LIST OF ELECTIVES

S No	Course Code	Elective 3 (2 +1)	Credit hrs
1.	MLS 711	Virology and Current trends in Viral infections	3 (2+1)
2.	MLS 712	Laboratory Genomics	3 (2+1)
3.	MLS 713	Blood bank technology	3 (2+1)
4.	MLS 714	Pharmacology & Therapeutics	3 (2+1)
5.	MLS 715	Antimicrobial Agents and Drug Resistance	3 (2+1)
6.	MLS 716	Laboratory Biosafety and Biosecurity	3 (2+1)
7.	MLS 717	Blood Transfusion Medicine	3 (2+1)
8.	MLS 718	Neurobiology	3 (3+0)

9.	MLS 719	Clinical Lab administration and management	3 (2+1)
10.	MLS 720	Biomedical technology	3 (2+1)
11.	MLS 721	Histological techniques	3 (2+1)

MPhil BIOCHEMISTRY

Program Title: MPhil Biochemistry

Duration: 2 Years

Eligibility Criteria:

16 years of education with MBBS/BDS/MSc Biochemistry/BS Biochemistry from PMC/HEC recognized university institute with minimum CGPA 2.00/4.0 OR 50% marks where CGPA is not given or having MSc. Physiology.

Completion of one-year house job at PMC-recognized institution.

Valid PMDC/PMC registration certificate.

HEC attestation on the candidate's local degree and cumulative transcript (at the back of the original degree & transcript)

Two years of teaching experience in the relevant subject will be given preference.

NB: All mentioned certificates duly attested by HEC to be produced at the time of the interview otherwise candidate will become ineligible for the selection process.

MPHIL BIOCHEMISTRY – ROADMAP

Semester-I

Sr No	Course Code	Course Title	Credit Hours
1	MED 701	Research Methodology	3+0
2	MED 712	Medical Biology & Genetics	2+0
3	MED 713	Medical Education, Ethics & Writing	2+0
4	MED 714	Instruments and Animal use in research	2(1+1)
5	MED 715	Journal Club -I	No credit Hour
6	MED 718	Teaching Internship-I	No credit Hour

Semester-II

Sr No	Course Code	Course Title	Credit Hours
1	BIO 750	Advances in Biochemistry and neurosciences	3+0
2	BIO 751	Advances in Clinical biochemistry	3(2+1)
3	XXXXXXX	Elective –I	3+0
4	MED 716	Journal Club-II	No credit hour
5	MED 719	Teaching Internship-II	No credit hour

Semester-III

Semester-I & Semester-II are Pre-requisite to proceed to Semester -III

Sr No	Course Code	Course Title	Credit Hours
1	XXXXXXX	Elective-II	3+0
2	XXXXXXX	Elective-III	3+0
3	THS 700	Thesis-I	3+0
4	MED 717	Journal Club –III	No credit hour
5	MED 720	Teaching Internship – III	No credit hour

Semester- IV

Sr.No.	Pre-requisite course code	Course Code	Course Title	Credit Hours
1	THS 700	THS 701	Thesis-II	3+0

ELECTIVE LIST

Sr.No.	Course Code	Course Title	Credit Hours
1	BIO 752	Chemical basis of Diet , Nutrition and recent trends in immunology	3(2+1)
2	BIO 753	Advances in Endocrinology	3+0
3	BIO 754	Fluids and electrolyte disorder	3+0
4	BIO 755	Enzymology and vitamins	3+0
5	BIO 756	Acid base disorders	3+0
6	BIO 757	Molecular mechanism of cancer	3+0
7	BIO 758	Minerals and detoxification	3+0

MPHil PHARMACOLOGY

Program Title: MPHil Pharmacology

Duration: 2 Years

Eligibility Criteria: 16 years of education with MBBS/BDS From PMDC/HEC recognized university/institution With Minimum CGPA 2.00/4.0 or 50% marks if CGPA is not given. HEC attestation on the candidate's local degrees (on the back of original degrees), HEC equivalency certificate for the candidate's foreign degrees, GAT General score with minimum 50% cumulative score or BU Test (50% minimum passing marks) Result to be submitted at the time of application in case of GAT (General) or GRE (General).

MPHIL (PHARMACOLOGY) – ROADMAP

SEMESTER-I

Sr.No.	Course Code	Course Title	Credit Hours
1	MED 701	Research Methodology	3+0
2	MED 712	Medical Biology & Genetics	2+0
3	MED 713	Medical Education, Ethics & Writing	2+0
4	MED 714	Instruments & Animal use in research	2(1+1)
5	MED 715	Journal Club -I	No credit hour
6	MED 718	Teaching Internship -I	No credit hour

SEMESTER-II

Sr.No.	Course Code	Course Title	Credit Hours
1	PHM 721	Pharmacological concepts & Adrenergic Pharmacology	3(2+1)
2	PHM 722	Cholinergic & Cardio-Respiratory Pharmacology	3+0
3	XXX XXX	Elective –I	3+0
4	MED 716	Journal Club -II	No credit hour
5	MED 719	Teaching Internship -II	No credit hour

SEMESTER-III

Semester-I & Semester-II are Pre-requisite to proceed to Semester -III

Sr.No.	Course Code	Course Title	Credit Hours
1	XXX XXX	Elective-II	3+0
2	XXX XXX	Elective-III	3+0
3	THS 700	Thesis-I	3+0
4	MED 717	Journal Club -III	No credit hour
5	MED 720	Teaching Internship -III	No credit hour

SEMESTER-IV

Sr.No.	Pre-requisite course code	Course Code	Course Title	Credit Hours
1	THS 700	THS 701	Thesis-II	3+0

ELECTIVE LIST			
S. No.	Course Code	Course Title	Credit Hours
1	MED 706	Tissue Processing	3(1+2)
2	MED 707	Drug Bio-screening & Herbal Medications	3(2+1)
3	PHM 723	Neuropharmacology	3+0
4	PHM 724	Endocrine & Gastrointestinal Pharmacology	3+0
5	PHM 725	Chemotherapy	3+0
6	PHM 726	Toxicology	3+0
7	PHM 727	Pharmacogenetics	3+0
8	PHM 728	Autacoids & Analgesics	3+0
9	PHM 729	Age specific Pharmacology	3+0
10	PHM 730	Dental Pharmacology	3+0

CORE COURSES			
Sr.No.	Course Code	Course Title	Credit Hours
1	MED 712	Medical Biology & Genetics	2+0
2	MED 713	Medical Education, Ethics & Writing	2+0
3	MED 714	Instruments & Animal use in research	2(1+1)
4	PHM 721	Pharmacological concepts & Adrenergic Pharmacology	3(2+1)
5	PHM 722	Cholinergic & Cardio-Respiratory Pharmacology	3+0
6	THS 700	Thesis-I	3+0

7	THS 701	Thesis-II	3+0
8	MED 715, 716, 717	Journal Club-I, II, III	No credit hour
9	MED 718, 719, 720	Teaching Internship-I, II, III	No credit hour

UNIVERSITY REQUIREMENT			
Sr.No.	Course Code	Course Title	Credit Hours
1	MED 701	Research methodology	3+0

MPhil PHYSIOLOGY

Program Title: MPhil Physiology

Duration: 2 Years

Eligibility Criteria: 16 years of education with MBBS/BDS/MSc Biochemistry/BS Biochemistry from PMC/HEC recognized university institute with minimum CGPA 2.00/4.0 OR 50% marks where CGPA is not given or having MSc. Physiology.

1. Completion of one-year house job at PMC-recognized institution.
Valid PMDC/PMC registration certificate.
2. HEC attestation on the candidate's local degree and cumulative transcript (at the back of the original degree & transcript)
3. Two years of teaching experience in the relevant subject will be given preference.

NB: All mentioned certificates duly attested by HEC to be produced at the time of the interview otherwise candidate will become ineligible for the selection process.

MPhil PHYSIOLOGY – ROADMAP

SEMESTER- I

Sr. No.	Course Code	Course Title	Credit Hours
1	MED 701	Research Methodology	3+0
2	MED 712	Medical Biology & Genetics	2+0
3	MED 713	Medical Education, Ethics & Writing	2+0
4	MED 714	Instruments & Animal use in research	2(1+1)
5	MED 715	Journal Club -I	No credit hour
6	MED 718	Teaching Internship – I	No credit hour

SEMESTER- II

Sr. No.	Course Code	Course Title	Credit Hours
1	PHY 760	General ,Neuromuscular and Blood Physiology	3+0
2	PHY 761	Cardiorespiratory Physiology	3(2+1)
3	XXXXXX	Elective –I	3+0
4	MED 716	Journal Club- II	No credit hour
5	MED 719	Teaching Internship- II	No credit hour

SEMESTER –III

Semester-I & Semester-II are Pre-requisite to proceed to Semester –III

Sr. No.	Course Code	Course Title	Credit Hours
1	XXXX	Elective-II	3+0
2	XXXXX	Elective-III	3+0
3	THS 700	Thesis-I	3+0
4	MED 717	Journal Club- III	No credit hour
5	MED 720	Teaching Internship- III	No credit hour

SEMESTER- IV

Sr. No.	Pre-requisite course code	Course Code	Course Title	Credit Hours
1	THS 700	THS-701	Thesis-II	3+0

List of Elective Courses

Sr. No.	Course Code	Course Title	Credit Hours
1	PHY 762	Physiology of Health, Fitness & Exercise	3+0
2	PHY 763	Haeme & Immune system	3+0
3	PHY 764	Gastrointestinal Physiology	3+0
4	PHY 765	Neurophysiology and special senses	3+0
5	PHY 766	Renal Physiology	3+0
6	PHY 767	Endocrine and Reproductive Physiology	3+0
7	PHY 768	Electrophysiology	3(1+2)
CORE COURSES			
Sr.No.	Course Code	Course Title	Credit Hours

1	MED 712	Medical Biology & Genetics	2+0
2	MED 713	Medical Education, Ethics & Writing	2+0
3	MED 714	Instruments & Animal use in research	2(1+1)
4	PHY 760	General ,Neuromuscular and Blood Physiology	3+0
5	PHY 761	Cardiorespiratory Physiology	3(2+1)
6	THS 700	Thesis-I	3+0
7	THS 701	Thesis-II	3+0
8	MED 715,716,717	Journal Club-I, II, III	No credit hour
9	MED 718,719,720	Teaching Internship-I, II, III	No credit hour
UNIVERSITY REQUIREMENT			
Sr.No.	Course Code	Course Title	Credit Hours
1	MED 701	Research methodology	3+0

PhD Health Sciences

Program Title: PhD Health Sciences

Duration: 3 Years

Eligibility Criteria: The only exception to the 17.5/18 years education rule shall be a letter from the HEC authorizing a candidate with less than 17.5/18 years education in unambiguous terms for admission into a PhD program.

Ph.D. Health Sciences

1. MBBS / BDS having 17.5/18 years of education with MPhil / FCPS/ equivalent degree from PM&DC and HEC-recognized university with a minimum CGPA of 3.00/4.00 (semester system) or 60% marks (only where CGPA is not given/available) in the field of Physiology, Biochemistry, Pathology (Microbiology), Pathology (Histopathology), Pharmacology and Public health (MS / MPhil / MSPH/ MPH, with course work & thesis).
2. Non-medical MPhil candidates are eligible to apply in PhD Health Sciences – Biochemistry, Physiology & Pathology (Microbiology) programs.
3. Non-medical MS/ MPhil/ MSPH/ MPH candidates with course work & thesis in nursing, social sciences, behavioral sciences are eligible to apply in PhD Health Sciences program – Public Health.
4. The only exception to the 17.5/18 years of education rule shall be a letter from the HEC authorizing a candidate with less than 17.5/18 years of education in unambiguous terms for admission into a PhD program.
5. Completion of one year of house job from PM&DC recognized institution / Hospital.
6. Valid PM&DC registration certificate.
7. Two years teaching experience in respective field will be given preference.
8. All mentioned certificates and degrees duly attested by HEC to be produced at the time of interview to avoid ineligibility.
9. Attestation by HEC on the candidate's local degrees and cumulative transcript (on the back of the original degrees and transcript). HEC's equivalency certificate is required for the candidate's foreign degrees.
10. Aptitude Test NTS-GAT (General), or GRE (General), passed with minimum 60% marks, or BU Admission Test (60% passing marks). Result be submitted at the time of application.

Roadmap of PhD Health Sciences

Semester -1

Sr.No.	Course Code	Course Title	Credit hours
1	MED 801	Laboratory Research Techniques	3(2+1)
2	MED 802	Biostatistics and Epidemiology	3+0
3	MED 803	Health Policy and Systems Research	3+0
4	XXXXXXX	Elective-I	3+0
5	MED 804	Journal Club -I	No credit hour
6	MED 806	Teaching Internship-I	No credit hour

*** Student will choose any two out of three MED Courses**

Semester -2

Sr.No.	Course Code	Course Title	Credit hours
7	XXXXXXX	Elective-II	3+0
8	XXXXXXX	Elective-III	3+0
9	XXXXXXX	Elective-IV	3+0
10	MED 805	Journal Club –II	No credit hour
11	MED 807	Teaching Internship-II	No credit hour

COMPREHENSIVE EXAM

Semester -3

Sr.No.	Course Code	Course Title	Credit hours
12	THS 900	PhD Dissertation	9

Semester -4

Sr.No.	Course Code	Course Title	Credit hours
13	THS 900	PhD Dissertation	9

Semester -5

Sr.No.	Course Code	Course Title	Credit hours
14	THS 900	PhD Dissertation	9

Semester -6

Sr.No.	Course Code	Course Title	Credit hours
15	THS 900	PhD Dissertation	9

MED CORE COURSE LIST

Sr.No.	Course Code	Course Title	Credit hours
1	MED 801	Laboratory Research Techniques	3(2+1)
2	MED 802	Biostatistics and Epidemiology	3+0
3	MED 803	Health Policy and Systems Research	3+0

*** Student will choose any two out of three MED Courses**

DPT (Doctor of Physical Therapy)

Program Title: DPT

Duration: 4 Years (8 Semesters)

Eligibility Criteria: HSSC Pre-medical with a minimum of 60% marks from a recognized board

Semester 1

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
ANT 111	ANATOMY – I	3 (2-1)	MAJOR	3
PHY 102	PHYSIOLOGY – I	3 (2-1)	MAJOR	3
KNS 103	KINESIOLOGY – I	3 (2-1)	MAJOR	3
ENG 101	FUNCTIONAL ENGLISH	3 (3-0)	GENERAL EDUCATION	4
HES 101	HEALTH EDUCATION & SPORTS	3 (2-1)	GENERAL EDUCATION	9
HSS 170	POLITICAL SCIENCES	2 (2-0)	GENERAL EDUCATION	4 ,16
ISL 107	TAJWEED	NON CH 1 HOUR/WEEK	GENERAL EDUCATION	4 ,16
	TOTAL CREDIT HOURS	17		

Semester 2

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
ANT 211	ANATOMY – II	3 (2-1)	MAJOR	3
PHY 108	PHYSIOLOGY – II	3 (2-1)	MAJOR	3
KNS 109	KINESIOLOGY – II	3 (2-1)	MAJOR	3
QUR 111	QUANTITATIVE REASONING – I	3 (3-0)	GENERAL EDUCATION	4,9
ENG 123	EXPOSITORY WRITING	3 (3-0)	GENERAL EDUCATION	4
PAK 105	PAKISTAN STUDIES	2 (2-0)	GENERAL EDUCATION	16
ISL 203	FEHM-E- QURAN – I / ANY INTER-DISCIPLINARY BU Approved COURSE	1 (0-1)	GENERAL EDUCATION	16
	TOTAL CREDIT HOURS	18		

Semester 3

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
ANT 203	ANATOMY – III	3 (2-1)	MAJOR	3
PHY 204	PHYSIOLOGY – III	3 (2-1)	MAJOR	3
MEP 202	MEDICAL PHYSICS	3 (2-1)	INTERDISCIPLINARY	3
BIO 211	PRINCIPLES OF BIOCHEMISTRY	3 (3-0)	INTERDISCIPLINARY	3
ICT 201	APPLICATIONS OF ICT	3 (2-1)	GENERAL EDUCATION	4,9
QUR 112	QUANTITATIVE REASONING – II	3 (3-0)	GENERAL EDUCATION	4,9
BIE 201	BIOMECHANICS & ERGONOMICS I	2(2-0)	MAJOR	3,8
	TOTAL CREDIT HOURS	20		

Semester 4

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
ANT 207	ANATOMY-IV (NEURO ANATOMY)	3 (2-1)	MAJOR	3
BIE 208	BIOMECHANICS & ERGONOMICS II	3 (2-1)	MAJOR	3,8
HUM 201	HUMAN PSYCHOLOGY	2 (2-0)	INTERDISCIPLINARY	3,16

PAK 109	IDEOLOGY & CONSTITUTION OF PAKISTAN	2 (2-0)	GENERAL EDUCATION	16
HSS 219	CIVICS & COMMUNITY ENGAGEMENT	2 (2-0)	GENERAL EDUCATION	11 16
MGT 363	ENTREPRENEURSHIP	2 (2-0)	GENERAL EDUCATION	8,9
ISL 101 / SOC 360	ISLAMIC STUDIES/ ETHICS	2 (2-0)	GENERAL EDUCATION	16
HSS 230	SOCIAL SCIENCES	2 (2-0)	GENERAL EDUCATION	4,5 10
ISL 204	FEHMUL QURAN– II	1 (0-1)	GENERAL EDUCATION	16
	TOTAL CREDIT HOURS	19		

Semester 5

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
EPY 212	EXERCISE PHYSIOLOGY	3 (2-1)	MAJOR	3
PHT 302	PHARMACOLOGY & THERAPEUTICS – I	2 (2-0)	MAJOR	3
PAE 303	PHYSICAL AGENTS & ELECTROTHERAPY – I	3 (2-1)	MAJOR	3
CMR 312	COMMUNITY MEDICINE & REHABILITATION	3 (2-1)	MAJOR	3,11
PAM 301	PATHOLOGY & MICROBIOLOGY – I	2 (2-0)	INTERDISCIPLINARY	3
AIB 415	ARTIFICIAL INTELLIGENCE IN HEALTHCARE	2 (2-0)	INTERDISCIPLINARY	3,9
SCP 307	SUPERVISED CLINICAL PRACTICE – I	3 (0-3)	CLINICAL PRACTICE	3,4
	TOTAL CREDIT HOURS	18		

Semester 6

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
PHT 309	PHARMACOLOGY & THERAPEUTICS – II	2 (2-0)	MAJOR	3
PAE 310	PHYSICAL AGENTS & ELECTROTHERAPY – II	3 (2-1)	MAJOR	3
TET 304	THERAPEUTIC EXERCISES & TECHNIQUES	3 (2-1)	MAJOR	3,4, 11
SDG 301	SUSTAINABLE DEVELOPMENT GOALS: HEALTH & WELLBEING	3 (2-1)	INTERDISCIPLINARY	3,4, 17
PAM 308	PATHOLOGY & MICROBIOLOGY – II	3 (2-1)	INTERDISCIPLINARY	3
MBG 212	MOLECULAR BIOLOGY & GENETICS	2 (2-0)	INTERDISCIPLINARY	3,9
SCP 313	SUPERVISED CLINICAL PRACTICE – II	3 (0-3)	CLINICAL PRACTICE	3,4
	TOTAL CREDIT HOURS	19		

Semester 7

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
MED 401	MEDICINE – I	3 (3-0)	MAJOR	3
SUG 402	SURGERY – I	3 (3-0)	MAJOR	3
MPT 404	MUSCULOSKELETAL PHYSICAL THERAPY	3 (2-1)	MAJOR	3
RDI 403	RADIOLOGY & DIAGNOSTIC IMAGING	3 (2-1)	INTERDISCIPLINARY	3,9
SRM 410	SCIENTIFIC INQUIRY & RESEARCH METHODS	3 (2-1)	INTERDISCIPLINARY	4,9
SCP 407	SUPERVISED CLINICAL PRACTICE – III	4 (0-4)	CLINICAL PRACTICE	3,4
ISL 113	SEERAH- I	NON CH 1 HOUR/WEEK	GENERAL EDUCATION	
	TOTAL CREDIT HOURS	19		

Semester 8

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
NPT 409	NEUROLOGICAL PHYSICAL THERAPY	3 (2-1)	MAJOR	3
MED 407	MEDICINE – II	3 (3-0)	MAJOR	3
SUG 408	SURGERY – II	3 (3-0)	MAJOR	3
SPT 511	SPORTS PHYSICAL THERAPY	2 (1-1)	MAJOR	4
BIO 411	BIOSTATISTICS	3 (2-1)	INTERDISCIPLINARY	4,9
PHY 501	PROFESSIONAL PRACTICE IN HEALTHCARE	2 (2-0)	INTERDISCIPLINARY	3,16
SCP 413	SUPERVISED CLINICAL PRACTICE – IV	4 (0-4)	CLINICAL PRACTICE	3,4
ISL 114	SEERAH -II	NON CH 1 HOUR/WEEK	GENERAL EDUCATION	
	TOTAL CREDIT HOURS	20		

Semester 9

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
CPT 501	CARDIOPULMONARY PHYSICAL THERAPY	3 (2-1)	MAJOR	3
PRO 502	PROSTHETICS & ORTHOTICS	2 (2-0)	MAJOR	3,9
CDD 503	CLINICAL DECISION MAKING & DIFFERENTIAL DIAGNOSIS	3 (3-0)	MAJOR	3
EPT 501	EMERGENCY PROCEDURES IN PHYSICAL THERAPY	2 (1-1)	MAJOR	3
EBP 405	EVIDENCE BASED PRACTICE	3 (2-1)	MAJOR	3,4
SCP 508	SUPERVISED CLINICAL PRACTICE – V	4 (0-4)	CLINICAL PRACTICE	3,4
RGS 490	RESEARCH PROJECT	3	CAPSTONE / RESEARCH	4,9
	TOTAL CREDIT HOURS	20		

Semester 10

Course Code	Course Title	Credit Hours	Category	17 UN-SDGS
MAT 504	MANUAL THERAPY	3 (2-1)	MAJOR	3
IPT 507	INTEGUMENTARY PHYSICAL THERAPY	2 (1-1)	MAJOR	3
WHT 501	WOMEN'S HEALTH PHYSICAL THERAPY	3 (2-1)	MAJOR	3,5
PNP 501	PEDIATRIC & NEONATAL PHYSICAL THERAPY	3 (2-1)	MAJOR	3,4
GPT 501	GERIATRIC PHYSICAL THERAPY	3 (2-1)	MAJOR	3,11
SCP 512	SUPERVISED CLINICAL PRACTICE – VI	4 (0-4)	CLINICAL PRACTICE	3,4
	TOTAL CREDIT HOURS	18		

BS Medical Laboratory Technology
Program of study: Road Map Medical Technology

Course title	BS (4 year degree program) in Medical Technology Offered in
	Clinical Laboratory Science/Clinical Pathology/Clinical Chemistry/ Medical Biochemistry
Course duration	4 YEARS
Study system	SEMESTER SYSTEM
No. of regular semesters	8
Semester Duration	16- 18 weeks
Total credit hours	130 (HEC recommended: 124-136)
Number of courses per semester	4-6
Course Load per Semester	15-18 credit hr

Course Title with study hrs	See table 1& II
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Distribution of Credit Hours Course Work

Semester	Total No. of Credit hrs
I	18
II	18
III	15
IV	17
V	15
VI	15
VII	17
VIII	15
TOTAL	130

Details with title of courses

Year	Semester	Course Codes	Title of Course	Credit hrs
	I	MBC 103	Medical Biochemistry -I	2 + 1

		HAT 111	Human Anatomy	2 + 1
		ENG 106	English -I	3 + 0
1 st year		PAK 105	Pakistan Studies	2 + 0
		MAS 102	Mathematics – I (pre-calculus)	3 + 0
		IMB 405	Introduction to Medical Lab Technology	2+ 1
		ISL 107	Tajweed	One contact Hr/ week
	II	MBC 107	Medical Biochemistry -II	3 + 1
		HPH 131	Human Physiology-I	2 + 1
		BMA 106	Biomathematics	3 + 0
		HSS 219	Civic and Community Engagement	2 + 0
		ENG 118	English -II	3 + 0
		IST 101	Islamic Studies	2 + 0
		ISL 108	Understanding Quran - I	One contact Hr/ week
	III	BSC 211	Behavioral Sciences	2+ 0
		ICT 201	Applications of Information and Communication Technologies (ICT)	2+ 1
2 nd year		HSS 330	Physical Education and Sports	2+ 0
		PAK 109	Ideology & Constitution of Pakistan	2+ 0
		HPH 132	Human Physiology-II	2+ 1
		GPT 111	General Pathology-I	2+ 1

		ICT 201	Applications of Information and Communication Technologies (ICT)	2+ 1
2 nd year		HSS 330	Physical Education and Sports	2+ 0
		PAK 109	Ideology & Constitution of Pakistan	2+ 0
		HPH 132	Human Physiology-II	2+ 1
		GPT 111	General Pathology-I	2+ 1
		GPH 202	General Pharmacology	2+ 1
		ISL 109	Understanding Quran-II	One contact hr/ week
	IV	MGT 363	Entrepreneurship	2+ 0
		BSS 307	Biostatistics	2+ 1
		HMT 202	Hematology - I	2+ 1
		MLI 306	Medical Lab Instrumentation	2+ 1
		DMB 204	Diagnostic Microbiology-I	2+ 1
		BTC 305	Biotechnology	2+ 1
		ISL 110	Understanding Quran-III	One contact hr/ week
		HGN 203	Human Genetics	2+1
	V	GPT 205	General Pathology-II	2+1
3 rd year		DMB 207	Diagnostic Microbiology-II	2+1
		HMT 208	Hematology -II	2+1
		CVM 210	Clinical Virology and Mycology	2+1
		ISL 111	Understanding Quran-IV	One contact hr/ week

		RMT 309	Research Methodology	2+1
	VI	WPD 301	WBCS and Platelets Disorders	2+1
		CPS 303	Clinical Parasitology	2+1
		CPT 304	Clinical Pathology	2+1
4 th year		ISL 112	Understanding Quran-V	One contact hr/ week
		IAS 308	Immunology and serology	2+1
		BLB 310	Blood Banking	2+1
	VII			
		MLM 401	Medical Laboratory Management Skills	2 +1
		FYP 401	Final Year Project	3 +0
		ISL 113	Seerah-I	One contact hr/ week
			Elective 2	2 +1
			Elective 3	2 + 1
	VIII		Elective 4	2 + 1
		SDB 405	Systematic Diagnostic Bacteriology	2 +1
		CAC 406	Cytology and Cytogenetic	2+1
		BIN 410	Bioinformatics	1+1
		INT 407	Internship	3 + 0

		ISL 114	Seerah-II	One contact hr/ week

List of Elective Courses		
Course Code	Course Title	Credit Hours
FIC 402	Fundamental of infection control	2+1
BIO 404	Hospital waste management	2+1
MCB 403	Molecular Biology	2+1
BIO 401	Cell and tissue culture	2+1
HPT 302	Histopathology	2+1
MOD 312	Molecular diagnostics	2+1
BIO 402	Biosensors	3+0
MSC 409	Medical Sociology	2+1

BS Nursing

Campus: PNS SHIFA HOSPITAL KARACHI

Department: PAKISTAN NAVY NURSING COLLEGE (PNNC)

Program Title: NURSING 4-YEAR DEGREE PROGRAMME

Program Level: BACHELOR / UNDERGRADUATE LEVEL

Total Duration of Program: 4 YEARS

Total Number of semesters: EIGHT

Semester-1

Sr.No.	Pre-requisite course code	Course Code	Course Title	Total Credit Hours	Theory	Clinical	Skills/Lab
1	–	FON 101	Fundamental of Nursing-I	4	2	–	2
2	–	MIC 102	Microbiology	3	2.5	–	0.5
3	–	ANP 103	Anatomy and Physiology-I	3	3	–	–
4	–	BIO 104	Biochemistry for Nurses	3	2	–	1
5	–	ENG 115	English-I for nursing	2	2	–	–
6	–	COS 106	Computer Skills	1	1	–	1
7	–	PAK 101	Pakistan studies	2	2	–	1
Total Credit Hours in Semester-1				16	11.5	–	4.5

Semester-2

Sr.No.	Pre-requisite course code	Course Code	Course Title	Total Credit Hours	Theory	Clinical	Skills/Lab
1	FON 101	FON 107	Fundamental of Nursing-II	4	2	1	1
2	ANP 103	ANP 108	Anatomy and Physiology-II	3	–	–	–
3	–	CHN 109	Community Health Nursing-I	3	2	1	
4	–	APP 110	Applied Nutrition	1	1	–	–
5	ENG 103	ENG 117	English-II for nursing	2	2	–	–
6	–	ISL 101	Islamic Studies	2	2	–	–
Total Credit Hours in Semester-2				17	11	2	1

Semester-3

Sr.No.	Pre-requisite course code	Course Code	Course Title	Total Credit Hours	Theory	Clinical	Skills/Lab
1	–	AHN 201	Adult Health nursing-I	8	4	3	1
2	–	PTH 202	Pathophysiology-I	2	1.75	–	0.25
3	–	HEA 203	Health Assessment-I	2	1	–	1
4	–	PHR 204	Pharmacology-I	2	2	–	–
5	–	MAT 205	Mathematics	1	1	–	–
6	ENG 104	ENG 119	English-III for nursing	2	2	–	–
Total Credit Hours in Semester-3				17	11.75	3	2.25

Semester-4

Sr.No.	Pre-requisite course code	Course Code	Course Title	Total Credit Hours	Theory	Clinical	Skills/Lab
1	AHN 201	AHN 207	Adult Health nursing-II	8	4	3	1
2	PTH 202	PTH 208	Pathophysiology-II	3	2.75	–	0.25
3	HEA 203	HEA 209	Health Assessment-II	2	1	–	1
4	–	DVP 210	Developmental psychology	2	2	–	–
5	PHR 204	PHR 211	Pharmacology-II	2	2	–	–
6	ENG 112	ENG 212	English-IV for nursing	2	2	–	–
7.	–	NRE 213	Nursing Ethics	1	1	–	–
Total Credit Hours in Semester-4				20	14.75	3	2.25

Semester-7

Sr. No.	Pre-requisite course code	Course Code	Course Title	Total Credit Hours	Theory	Clinical	Skills/Lab
1	–	CCN 401	Critical Care Nursing	7	2.5	4	0.50
2	–	INT 402	Introduction to Nursing Theories	2	2	–	–
3	–	LIV 403	Leadership and Management in Nursing	3	2	1	–
4	–	NUR 404	Nursing Research	3	3	–	–
5	ENG 315	ENG 415	English VII for nursing	2	2	–	–
Total Credit Hours in Semester-7				17	11.5	5	0.50

Semester-8

Sr.No.	Pre-requisite course code	Course Code	Course Title	Credit Hours	Theory	Clinical	Tutorial
1	CHN 109,302	CHN 406	Community Health Nursing-III	5	2	3	–
2	–	NST 407	Nursing Seminar/Role Transition	2	2	–	–
3	–	CLP 408	Clinical Practicum	5	–	4	1
3	ENG 415	ENG 416	English-VIII for nursing	2	2	–	–
Total Credit Hours in Semester-8				14	6	7	1

1. The internship program after 04 years BS Nursing degree program is compulsory for all Nursing undergraduates. Details of Internship Period is as follows:

- Duration: One year (52 weeks)
 - Vacations: 4 weeks (including of public holidays)
- Internship rotation 46 weeks including orientation

BS Public Health Program

Important for all candidates:

- Applicant for admission MUST MEET THE ELIGIBILITY REQUIREMENTS set-forth by Bahria University.
- Candidates are advised to CONFIRM THEIR ELIGIBILITY prior apply.
- In case of annual system, eligibility will be determined on the basis of result in percentages.
- In case of semester system, eligibility will be determined on the basis of CGPA obtained out of 4.00
- In case the result is shown both in CGPA and percentage, CGPA will be considered.

Eligibility Criteria:

- Minimum 50% marks in HSSC or an IBCC equivalent qualification in Pre-Medical.

Semester 1

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1		ENG 101	Functional English	3	G	4
2		BES 204	Applications of Information and Communication Technologies (ICT)	3	G	4

3		BPH 111	Introduction to Public Health	3	Major	3,4
4		PAK 105	Pakistan Studies*	2	G	4
5		LSB 110	Life Sciences Biology	2+1	Major	3
6			Quantitative reasoning I	3	G	4
7		ISL 107	Tajweed		G	4
Total Credit Hours					17	

Semester 2

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1			Expository Writing*	3	G	SDG 4
2			Quantitative reasoning-II*	3	G	SDG 17
3		CHD 219	Concept of Health and disease	3	M	SDG 4
4			Natural Sciences*	2+1	G	SDG 3 SDG 4
5		MAP 113	Medical Anthropology	3	M	SDG 3 SDG 4
6		PAK 109	Ideology and constitution of Pakistan	2	G	SDG 3 SDG 4
		ISL 203	Fehm-e-Quran-I *(Multi culturalism and Social Harmony)	1 (3 contact hours)	G	SDG 4
Total Credit Hours				18		

* Non-Muslim students shall undertake any University-approved 02 (or more) credit hours Interdisciplinary Course in lieu of Fehm-ul Quran I & II.

Semester 3

Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
	ISL 102	Islamic studies((Religious Edu / Ethics for non-Muslim students)	2	G	SDG 3
		Arts and humanities *	2	G	SDG 4
	PAS 222	Health promotion, advocacy & Social Mobilization	3	M	SDG 3 SDG 4
	FIN 328	Fundamental principles of Infectious diseases	2+1	M	SDG 3 SDG 5 SDG 6 SDG 10 SDG 16
	BPH 112	Fundamentals of Health System	3	M	SDG 4
	SCO 311	Population dynamics	3	M	SDG 3

Semester 4

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1		BEP 220	Basic Epidemiology	2+1	M	SDG 3
2		BST 108	Basic Biostatistics	2+1	M	SDG 3 SDG 4
3		PHC 215	Primary health care	2+1	M	SDG 3 SDG 6

Sr. no.	Course code	Internship	CH
	SDW 498	Internship	3

Semester 5

Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
	BPH 113	Applied Epidemiology	2+1	Major (core)	SDG 1, SDG 2 SDG 3, SDG 9
		Elective I*	3	M	SDG 2, SDG3 SDG 6
	BPH 114	Applied Biostatistics	2+1	M	SDG 3, SDG 6 SDG 8, SDG 11 SDG 13
	RPH 325	Reproductive health	2+1	M	SDG 3, SDG5 SDG6 SDG7, SDG 9, SDG11, SDG 12, SDG13, SDG 15
		Interdisciplinary I	3	I	

Semester 6

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1		CNT 323	Community Nutrition	2+1	M	SDG 2 SDG 3 SDG 6
2			Elective II*	3	M	SDG 3 SDG 6
3			Elective III*	3	M	SDG 1, SDG 2 SDG 3, SDG 6 SDG 11, SDG 10 SDG 13 SDG 7 SDG 8 SDG 5 SDG 9 SDG 15 SDG 14
4		REM 435	Research Methodology	3	M	SDG 3 SDG 9
5			Interdisciplinary 'II	3	I	
Total Credit Hours				15		

Semester 7

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1		NCE 330	Non communicable disease epidemiology	2+1	M	SDG 1 SDG 2 SDG 3 SDG 5, SDG 10

2		CDE 329	Communicable disease epidemiology	2+1	M	SDG 3 SDG 4 SDG 8 SDG 9 SDG 13
3			Interdisciplinary III	3	I	SDG 3 SDG 6
4			Interdisciplinary IV	3	I	SDG 3 SDG 11 SDG 8 SDG 9 SDG 17
5			Elective IV*	3	M	SDG 1
6			Elective V*	3	M	SDG 4
		ISL 113	Seerah I			
Total Credit Hours				18		

Semester 8

Sr. No.	Pre-requisite Course Code	Course Code	Course Title	Credit Hours	HEC Category	17 UN SDGs alignment
1		EOH 326	Environmental and occupational health	2+1	M	SDG 3 SDG 6 SDG 11 SDG 10 SDG 13 SDG 7 SDG 8 SDG 5 SDG 9
2			Elective VI*	3	M	SDG 3 SDG 8 SDG 9 SDG 17
3			Elective VII*	3	M	SDG 3 SDG 5 SDG 10 SDG 8
4			Elective VIII*	3	M	
5		RGS 490	Capstone Project	3	Capstone project	
6		ISL 114	Seerah II	1 Contact hour	NC	SDG 4
Total Credit Hours				15		

General Courses

1	Category	Proposed Courses	Already Offered Course	
	Arts & Humanities	French Language Russian Language Arabic Language	HSS 330 Physical Education and Sports	2

		German Language Chinese Language Spanish Language Turkish Language		
2	Natural Sciences		Food Safety FOS 456 Microbiology MIB 436 Life sciences Biology II	3
3	Social Sciences		Introduction to Psychology Sociology of health and disease	2
4	Functional English	Functional English		3
5	Expository Writing	(ENG 224) Creative Writing (ENG 123) Expository Writing	Advance Academic reading and Writing Skills	3
6	Quantitative Reasoning		Mathematics Introduction to Statistics	6
7	Islamic Studies (OR) Religious Education Studies only for non-Muslim students		Islamic Studies	2
8	Ideology and Constitution of Pakistan		Ideology and Constitution of Pakistan Pakistan Studies	2+2

9	Applications of Information and Communication Technologies (ICT)		Introduction to Computer Applications	3
10	Entrepreneurship		Entrepreneurship	2
11	Civics and Community Engagement		Civics and Community Engagement	2

12	Tajweed			0
13	Understanding of Holy Quran / Fehmul QuranI			1
14	Understanding of Holy Quran / Fehmul QuranII			1
15	Seerah-I			0
16	Seerah-II			0

Total Credit Hours 34

Interdisciplinary/Allied Requirements

Sr#	Course Code	Course Title	CHs
2	ENG 213	OC & Presentation Skills	03
3	SHD 111	Sociology of Health and Disease	03
4	PET 216	Professional Ethics	03
5	HBM 626	Health Economics	3
6	BPH 306	Digital health	2+1
7	ETL 437	Entomology	2+1
8	PAR 438	Parasitology	2+1
9	HPE 334	Health Professionals education	03
10	BPH 309	Sustainable healthcare	2+1
11	BPH 115	Water and Sanitation system (WASH)	2+1

Total 12 CHs

List of Elective Courses

Sr. No	Pre-req Course Code	Course Code	Course Title	Credit Hours	HEC Category
1		DSM 443	Disaster Management	3	MAJOR (ELECTIVE)
2		HIS 444	Health Information System	2+1	MAJOR (ELECTIVE)
3		ASH 446	Adolescent and Sexual Health	2+1	MAJOR (ELECTIVE)
4		SIH 448	School Health	3	MAJOR (ELECTIVE)
5		INH 449	International Health	3	MAJOR (ELECTIVE)
7		HEP 451	Health Financing	2+1	MAJOR (ELECTIVE)
8		APH 452	Art and Public Health	3	MAJOR (ELECTIVE)
9		COD 453	Community Dentistry	2+1	MAJOR (ELECTIVE)
10		ASR 457	Addiction and Social Rehabilitation	2+1	MAJOR (ELECTIVE)
11		NUM 458	Nuclear Medicine	2+1	MAJOR (ELECTIVE)
12		SPM 459	Sports Medicine	2+1	MAJOR (ELECTIVE)
13		FIN 420	Risk Management	3	MAJOR (ELECTIVE)
14		GER 461	Geriatrics	2+1	MAJOR (ELECTIVE)
15		HIM 462	Health Inventory Management	2+1	MAJOR (ELECTIVE)
16		PRH 463	Prison Health	2+1	MAJOR (ELECTIVE)
17		CON 455	Community Nursing	2+1	MAJOR (ELECTIVE)
18		COP 454	Community Psychiatry	2+1	MAJOR (ELECTIVE)
19		QMH 447	Quality management in Healthcare	2+1	Major (elective)
20		CPD 324	Community Pediatrics	2+1	Major (elective)
21		HPM 331	Health Policy and management	3	Major (elective)
22		HMT 442	Health Marketing	3	Major (elective)
23		HLP 332	Health planning	3	Major (elective)
24		MHL 427	Mental health	2+1	Major (elective)
25		HPM 445	Health project management	3	Major (elective)
26		MIB 436	Microbiology	2+1	Major (elective)

BS Hospitality & Tourism Management

Program Title: BS Hospitality & Tourism Management

Duration: 4 Years (8 Semesters)

Eligibility Criteria: Candidates must have successfully completed Higher Secondary School Certificate (HSSC) or equivalent with a minimum of 45% marks from a recognized board.

Roadmap of BS Hospitality & Tourism Management

Semester 1

Course Code	Course Title	Category	Credit Hours
ENG 101	Functional English	GE	3
MIS 161	IT in Business (word, excel)	GE	3
ENV 120	Introduction to Environment and Sustainability	GE	3
HTM-511	Room Division Operation	Major CTH 4	3+1
HTM -512	Global Tourism & Hospitality	Major CTH 4	3
HTM -513	Food & Beverage Operations	Major CTH 4	3+1
ISL-107	Tajweed (1 contact hour per week)	UR	0

Semester 2

Course Code	Course Title	Category	Credit Hours
ENG 102	English Writing Skills	GE	3
MGT 211	Self-Management	GE	3
ISL-108	Understanding Quran-I (01 contact hour)	UR	0
HTM -521	Customer Service Management in Tourism & Hospitality	Major CTH4	3
HTM -522	Food & Beverage Supervision	Major CTH4	3+1
HTM -523	Room Division Supervision	Major CTH4	3+1
HTM -524	Finance in Tourism & Hospitality	Major CTH4	3

Summer-1

Course Code	Course Title	Category	Credit Hours
HTM-525	Internship	Major	3

Semester 3

Course Code	Course Title	Category	Credit Hours
QTM 122	Business Mathematics & Numeracy Skills	GE	3
PAK 101	Pakistan Studies	GE	2

HTM -531	Contemporary Issue in the Tourism and Hospitality Industry	Major CTH5	3
HTM -532	Strategic Marketing in the Tourism & Hospitality Industry	Major CTH5	3
HTM -533	Human Resource Management in the Tourism and Hospitality Industry	Major CTH5	3
HTM -534	Food & Beverage Management	Major CTH5	3+1
ISL-109	Understanding Quran-II (01 contact hour)	UR	0

Semester 4

Course Code	Course Title	Category	Credit Hours
MGT 363	Entrepreneurship	GE	3
ISL 201 / SOC 360	Islamic Socio-Economic Studies / Ethics	GE	3
ENG 214	Business Communication	GE	3
PAK-104	Ideology and Constitution of Pakistan	GE	2
HTM -541	Customer Relationship Management in the Tourism & Hospitality Industry	Major CTH5	3
HTM -542	Facilities Management in the Tourism & Hospitality Industry	Major CTH5	3
HTM -543	Understanding Funding & Finance in Tourism & Hospitality	Major CTH5	3
ISL-110	Understanding Quran-III (01 contact hours)	UR	0

Summer-2

Course Code	Course Title	Category	Credit Hours
HTM-544	Field Experience	Major	3

Semester 5

Course Code	Course Title	Category	Credit Hours
MGT 643	Corporate Skills	Major	3
HTM-551	The Strategic Impact of the Business Environment	Major CTH6	3
HTM-552	Business Strategy for Hospitality & Tourism	Major CTH6	3
HTM-553	Managing Events for Hospitality & Tourism	Major CTH6	3
HSS 301	Social and Psychological Development	ID	3
ISL 111	Understanding Quran-iv(01 contact hour)	UR	0

Semester 6

Course Code	Course Title	Category	Credit Hours
QTM 110	Business Statistics	Major	3
HTM-554	Quality Management for Hospitality & Tourism	Major CTH6	3
HTM-561	Strategic Management	Major CTH7	3
HTM-562	Managerial Finance	Major CTH7	3
SOC 350	Business Ethics	ID	3
ISL 112	Understanding Quran-v (01 contact hour)	UR	0

Semester 7

Course Code	Course Title	Category	Credit Hours
HTM-563	Operation Management in Hospitality & Tourism	Major CTH7	3
HTM-564	Marketing & Customer Experience Management	Major CTH7	3
HTM-565	Global HRM strategies	Major CTH7	3
MGT 301	Business Law	ID	3
ISL 113	Seerah-i (01 contact hour)	UR	0

Semester 8

Course Code	Course Title	Category	Credit Hours
HTM-566	Destination Management	Major CTH7	3
HTM-567	Event & Project Management	Major CTH7	3
HTM-568	Research Method in Hospitality & Tourism	Major CTH7	3
QTM 205	Statistical Inference and Quantitative Research	ID	3
ISL 114	Seerah-ii (01 contact hour)	UR	0

List of Social Sciences Courses

Course Code	Course Title	Credit Hours
HSS 109	Arabic	2
HSS 163	Chinese	2
HSS 160	French	2
HSS 164	German	2
HSS 161	Russian	2
HSS 162	Spanish	2
HSS 214	Turkish	2



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